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ABSTRACT

This science teaching guide on insects and animals for 4-year-old children is based on a modification of the "Plan, Do, Review" approach to education devised by High Scope in Ypsilanti, Michigan. First implemented as an outreach early childhood program in North Carolina, the science activities described in this guide can be adapted to various early childhood environments. All activities described in the curriculum's sessions are hands-on and manipulative, based on the understanding that young children learn through doing. The four sessions in this guide for 4-year-olds cover: (1) various kinds of insects; (2) spiders are not insects; (3) how "creepie-crawlies" grow and change; and (4) how "creepie-crawlies" camouflage themselves. Each session begins with group time and a story to introduce the science concept for that session. Children are then introduced to all the possible activities for the session. As the activities are explained, materials are placed in learning centers around the room. Children then choose and complete activities in the centers, with adults "floating" from center to center engaging children in questions intended to enhance their understanding. Sessions are completed with a group review time. Resource kits or enrichment activities are included with each session, and masters of patterns that may be needed for enrichment activities are included, along with lists of suggested books, fingerplays, and songs that infuse science concepts throughout children's day. (EV)

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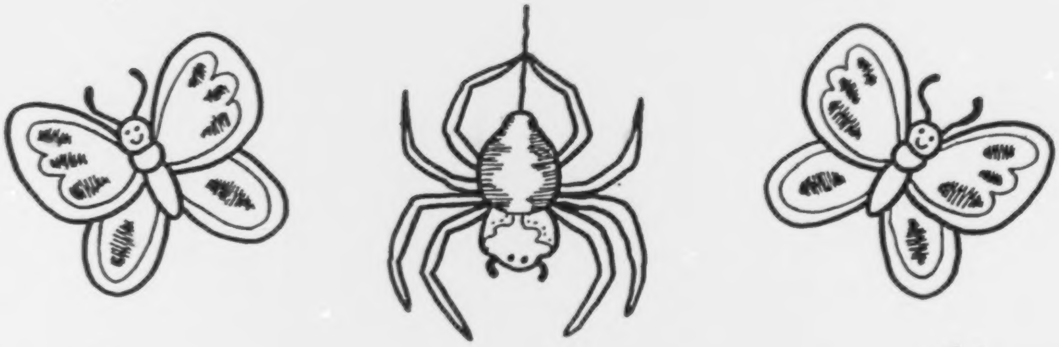
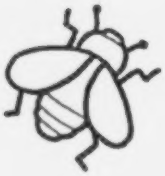


# Creepy Crawlies



## Developing An Early Interest In Science

## A Preschool Science Curriculum

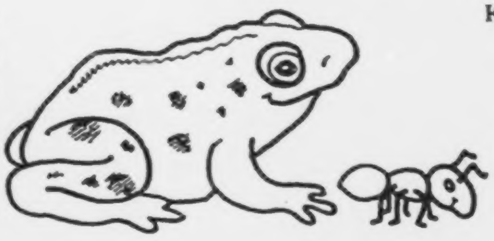
4 YEAR OLD

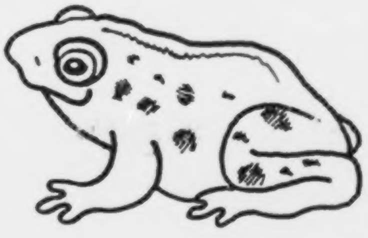
**Curriculum written by**

**Gail L. Summer, Ed.D.**

**and**

**Kathleen Giovannini, M.A.**





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**Catawba Science Center**
**Hickory, NC**

PS 026535

# Creepy Crawlies

PS 020535

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## A Preschool Science Curriculum

## Creepy Crawlies

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# Introduction

## Philosophy

**Developing an Early Interest in Science** has been designed to not only develop an early interest in and enthusiasm for science, but also to excite young children about learning and discovering in general. While science is the content, the approach with which that content is presented is crucial to the success of developing an early interest in science and learning.

The young child learns in unique ways. The young child must experience science concepts. Simply talking about scientific concepts doesn't allow the child to understand and therefore attach meaning to the concepts. Perhaps the old Chinese Proverb, "I hear and I forget; I see and I remember; I do and I understand" is a good reminder of how the young child needs to experience the world. Doing is the key.

Given how the young child learns, **Developing an Early Interest in Science** is based on a modification of the Plan, Do, Review approach devised by High Scope in Ypsilanti, Michigan. The Plan, Do, Review approach introduces the concept and choices for the day, then allows each child to "plan" their activities by stating their choices for that day. After each child "plans," each implements his/her plan by "doing," or engaging in the activities selected. While the children are "doing," the teachers are interacting with them, asking questions to further elaborate the learning. After "doing," the children regroup and "review" by sharing what they did while interacting with the activities that day. The purpose of the Plan, Do, Review approach is to allow children control over their learning, while still holding them responsible for what they are learning.

## Program Description

**Developing an Early Interest in Science** has been designed to be an outreach early childhood program. In its original form, a science educator from the Catawba Science Center in Hickory, NC visited child care/early childhood programs on a bi-weekly schedule. With each visit, one session was shared with the children. Teachers in the child care programs participated in training workshops prior to each new unit (units consisted of 4-6 sessions). The purpose of the workshops was for the teachers to make resource activities they used in their classroom after the session and to also gain an understanding of the concepts to be better able to assist the science educator while she was in their classroom.

Replication of the program in its original form is possible, but variations are also possible. The sessions could be presented at a science center with the children travelling to the museum rather than the educator travelling out to the children. The sessions may also be presented to small groups of parents and their preschoolers at a science museum for a brief morning session, somewhat similar to the library story hour idea enjoyed by parents and preschoolers for years. The sessions are also easily adaptable by teachers in child development centers for use in their own classrooms. Each session provides suggestions for numerous center ideas to enrich science activities throughout the preschool curriculum. With a little flexibility, the curriculum presented here can fit many formats and needs.

## Session Description

In **Developing an Early Interest in Science,** each session begins with a circle or group time, with a song to say hello to everyone, and a story to introduce the concept for that session. Children are then introduced to all the possible activities for the session. As the activities are shared, they are placed in learning centers around the room. After the activities are all introduced, and the children have watched where each has been placed in the learning centers, the children "plan" as they are asked one by one what they would like to do during that day's session. (This whole introductory process takes about 10 minutes.)

As children make choices, they are dismissed from the circle to begin the "do" part of the cycle by engaging in their choices in the learning centers. Adults join the children in their activity in centers by floating from center to center to engage children in questions which enhance their activity and understanding. As children complete one activity, they may choose another activity in their plan. Children are not expected to rotate through the activities on an adult schedule or in groups of prearranged partners. Some children may only complete one activity during a session due to total engagement with that activity, and that's just fine. Other children may complete several activities and that's acceptable too. There is no predetermined number of activities which should be completed and no child is forced to interact with a particular activity.

After the time for "doing" has been completed (usually about 25 minutes), the children return to the circle group time to share ("review") what they did in centers. The teacher often helps this process by asking "Johnny, what did you play with in centers today?" When a child has a hard time remembering, or is quiet and unsure of reviewing at first, the teacher can help by suggesting, "Did you play with the magnets today? What happened when you used the magnet?" The teacher is able to ask Johnny about his "plan" because she floated through the centers and observed what each child did. (Reviewing takes about 5 minutes.) After each child has had a chance to review, the concept for the session is reemphasized or recapped by the teacher, and the session is ended.

## Activities

The activities which are included in **Developing an Early Interest in Science** are all hands-on, manipulative activities. Every effort is made to make the concept for each session real and meaningful for children by allowing them to experience it. For example, rather than just talk about the fact that water flows because it is a liquid, the children actually pour water through clear tubes and watch the flow in action. Rather than talk about internal body parts children can't see, special dolls are used which allow children to uncover those hidden inside body organs such as hearts and lungs. Whenever appropriate books and puppets are used to enhance language. Science develops wonderful vocabulary! Puzzles are used to help children develop fine motor skills and explore science.

Real materials are used whenever possible. Real butterfly displays are explored rather than exclusively using colored pictures of butterflies. Real rocks of a wide variety are provided. Both real and replica fossils are manipulated. There is much to be said for allowing children to experience the "real thing." Yes, some science materials are fragile, but children will never learn to be careful unless there is reason to be so. Imagine touching and feeling a real fossil from a dinosaur! It takes little enticement to be gentle with a thing so old, if children are only reminded just how precious fossils are.

## Resource Activities

**Developing an Early Interest in Science** has also been designed to include resource or enrichment activities to further extend the concepts from each session. Some resource activities suggest the use of real objects easily obtainable. Many other resource activities are made with patterns to produce manipulative games with which to review session concepts. Masters of the patterns and directions for their use are included with the curriculum. A brief listing of the resource activities made from the patterns along with additional suggested activities can be found in the session descriptions. More detailed directions for assembly of patterns to make the resource activities can be found in the teacher resource activity section. Lists of suggested books, fingerplays, and songs to be used by the classroom teacher in order to infuse the science concepts throughout the child's day are also included in a separate section of the curriculum.

## Using **Developing an Early Interest in Science**

Whatever format meets your particular needs, it is important that you read the session through before trying it. As you read the session procedure, try to picture how and where you will lay out the center activities. Review the storybooks suggested and read them before the sessions. Practice the fingerplays before the session too. Anticipate the questions children will ask. Perhaps most important, get excited about what you will be sharing with the children! Your enthusiasm is contagious!

A suggested list of materials used in the centers is included with each unit. From time to time, materials are discontinued by manufacturers. If this should happen before you can access the materials suggested, review the session to determine how that particular material was used and select a substitute item. While the materials suggested worked well, there's nothing to say that a substitute item might not do just as well or even better.

Most important in using **Developing an Early Interest in Science** is to encourage children to play, interact, and enjoy. An early interest in science cannot be developed if children are chastised for messes and trying something that wasn't the adult intention. Science requires hypotheses and tests for hypotheses. Children are natural "little scientists" if allowed to explore. So relax and watch those little scientists blossom!

# Creepy Crawlies

## Session Activities

## Four-Year-Olds

CREEPY CRAWLIES

Four-Year-Olds

Session 1

CONCEPT: There are many kinds of insects. (Children will become familiar with many different kinds of insects.)

PROCEDURES:

1. Gather the children into a circle group. Open with a name fingerplay to distribute name tags/learn names. Introduce concept of the day with a fingerplay on insects.

2. Use insect puppets (ant and firefly) to review insect body parts. Remind children that in order to be an insect a creepy crawlie must have six legs, three body parts, antennae, and sometimes have wings. Let the children help you point out the different parts on the puppets.

3. Read The Icky Bug Alphabet Book. Remind the children to watch for any insects that they might have seen before. Also, ask the children to try and look at the body parts, antennae, legs, and sometimes wings on the different insects as you read the book.

4. Show the children the collection of live ladybugs. Also show the children the display of preserved insects. Ask them to point out some differences between them. The children could also count the number of spots on the different ladybugs.

5. Let the children know that while you're talking about insects, not all insects are the same. There are ways we can sort insects by their characteristics. Put two rings of yarn on the floor. Dump out the container of plastic insects. Ask the children to help you sort the insects. Use the flying insect puppet to point out which hoop the flying insects go into. Ask the children to tell you the difference between the flying insect puppet and the crawling insect puppet. Place the crawling insect into the second hoop. Let the children sort the plastic insects.

6. Do a creepy crawlie fingerplay (repeat the opening concept fingerplay or select another creepy crawlie fingerplay) to resettle the group and prepare to disperse to centers. Once attention is regained, explain the center options available for that day. After you have explained the centers, ask the children to choose where they would like to go. As they choose, send them on their way. Allow the children to freely play and choose another center as they finish each task. Be sure to float from center to center and interact with the children as they play to reinforce the concepts for the day. Play music from the record Insects, Bugs, and Squiggly Things while children are in the centers. The center options today are:

A. Provide a variety of insect puzzles for the children to put together. Ask the children about insect parts. Help them count the body parts and number of legs. See if the children know the names of any of the insects. Allow 3-4 children at this center.

B. Provide the plastic insects and sorting rings for the children to sort again. Encourage them to think of new ways in which the insects can be sorted. Allow 2-3 children at this center.

C. Provide the Insect Lotto game for the children to play with an adult. Encourage the children to name the ones they know. Ask the children if they saw any of these insects here with you today. Also, encourage them to count legs and body parts on some of the insects that they see in the game. Allow 3-4 children at this center.

D. Provide the Insect Rummy card game for children to play with an adult. Encourage the children to ask for cards they need by naming the insect if they know it. If they do not know the name, have the child describe what the insect looks like. Allow 3-4 children at this center.

E. Provide a variety of plastic realistic insects in a center for children to examine with magnifiers. Ask the children about similarities and differences. Include cricket, bee, ant, wasp, housefly, firefly, June beetle, Japanese beetle. Allow 3-4 children at this center.

F. Provide the insect puppets (firefly, ant, ladybug) in a center for the children to play with. Encourage them to make up a story about their puppets. Ask the children questions about their insect, for example, what they eat or where they live. Reinforce body parts of insects. Allow 2-3 children at this center.

G. Provide a variety of books on insects in this center. Include fact and fiction books with both photographs and drawings. Read books to the children at their request. Allow 3-4 children at this center.

7. Two minutes before you are ready for the children to clean up turn out the lights and make an announcement to warn them to begin finishing up whatever they are working on. After two minutes, turn out lights again and ask the children to clean up. Call children back to the group circle with a song. Allow each child to share one thing they learned or played with during center time. Read Fireflies. Ask the children about their experiences with fireflies. Let the children share some of their stories, then ask them to watch to see if they learn anything new about fireflies in this story.

8. Read the Big Book of Insects to review insects. Ask the children to watch for any insects that they might know or might have learned about from you while you have been discussing insects.

9. Close with a fingerplay about fireflies.

10. Use puppets to help sing the good-by song and collect name tags. Let the children hug and kiss the puppet to say good-bye.

RESOURCE KIT:

1. Provide several bug boxes for children to collect bugs and then observe.

2. Use the patterns to make a lotto game of different insects for the children to match.

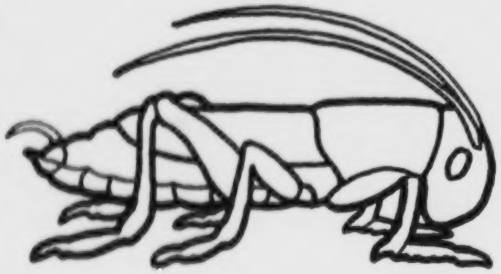
3. Use the patterns to make a variety of insect puzzles.

4. Use the patterns to make dominoes of different types of insects for children to match and build on.

5. Provide a variety of plastic insects that children can sort and match.

6. Use the patterns to make a lotto game for children to match insects to their homes.

7. Use the patterns to make a game of outlines of insect bodies for children to match to detailed bodies.



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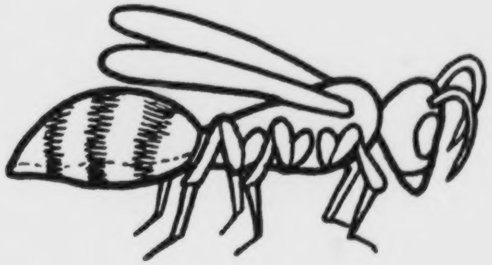

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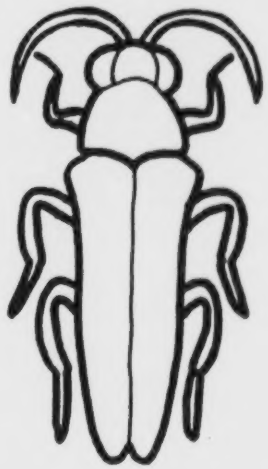
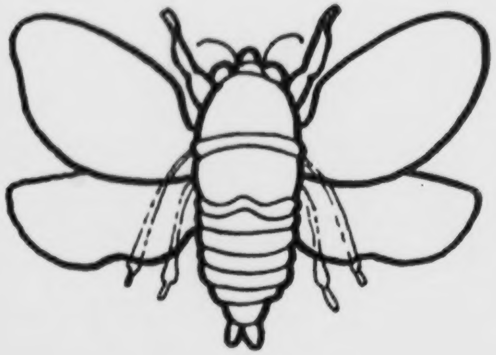


firefly



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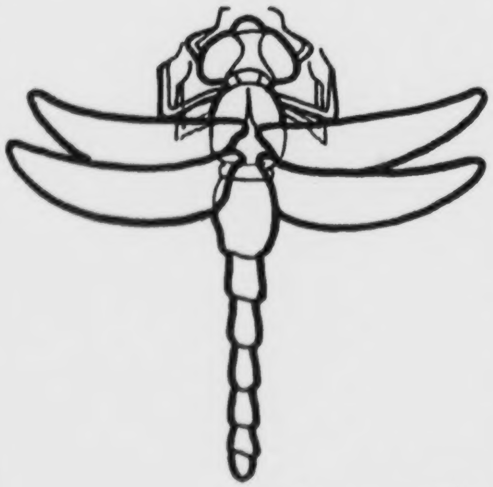

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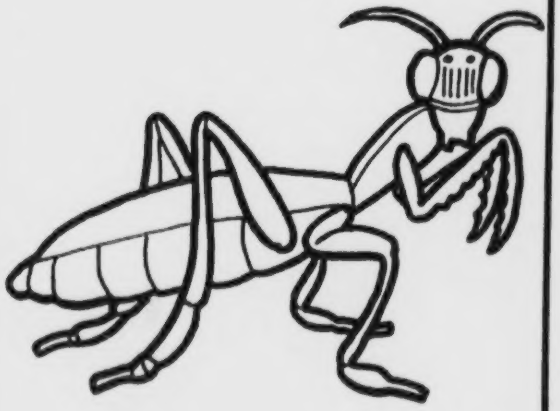

praying mantis

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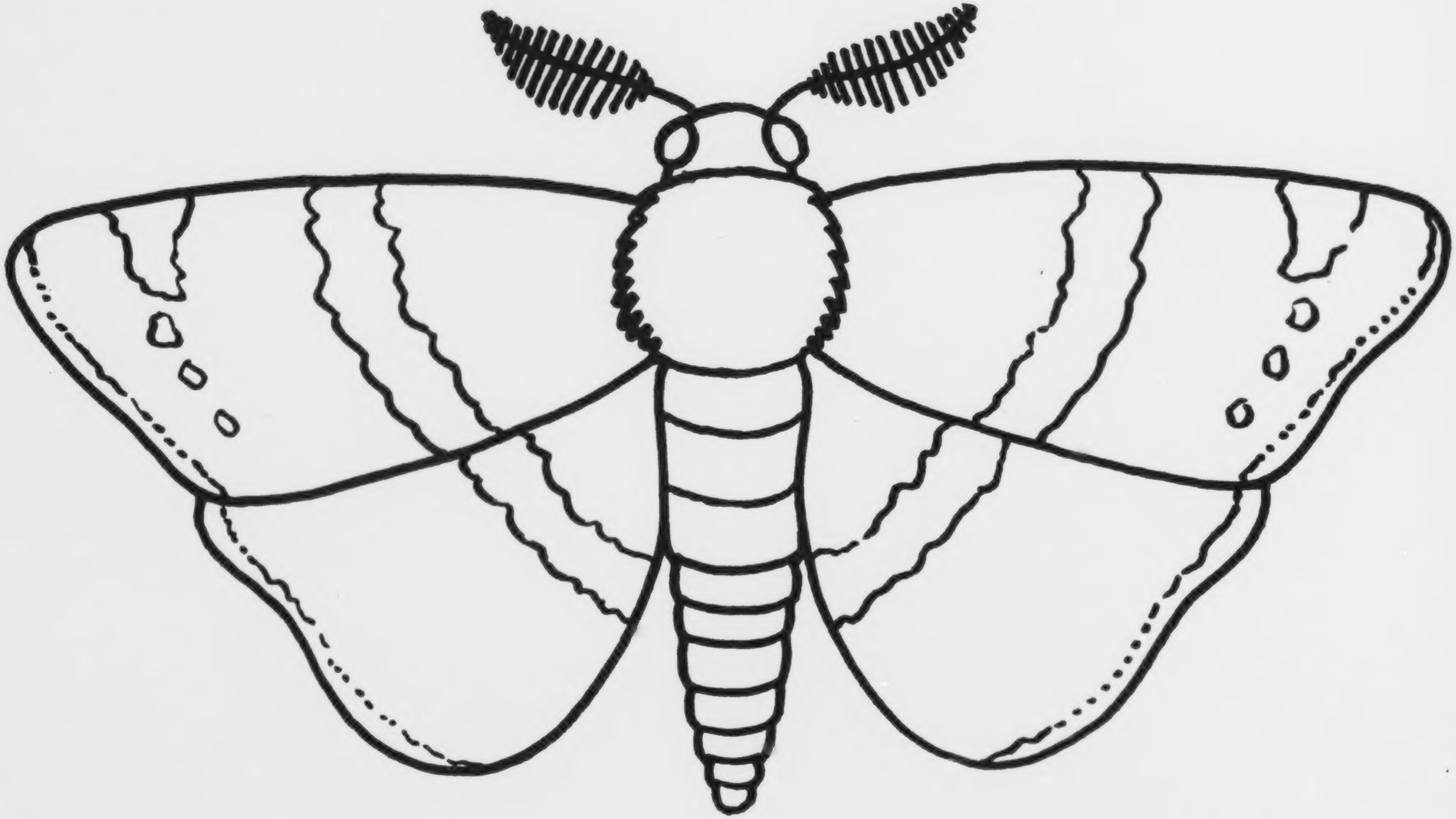

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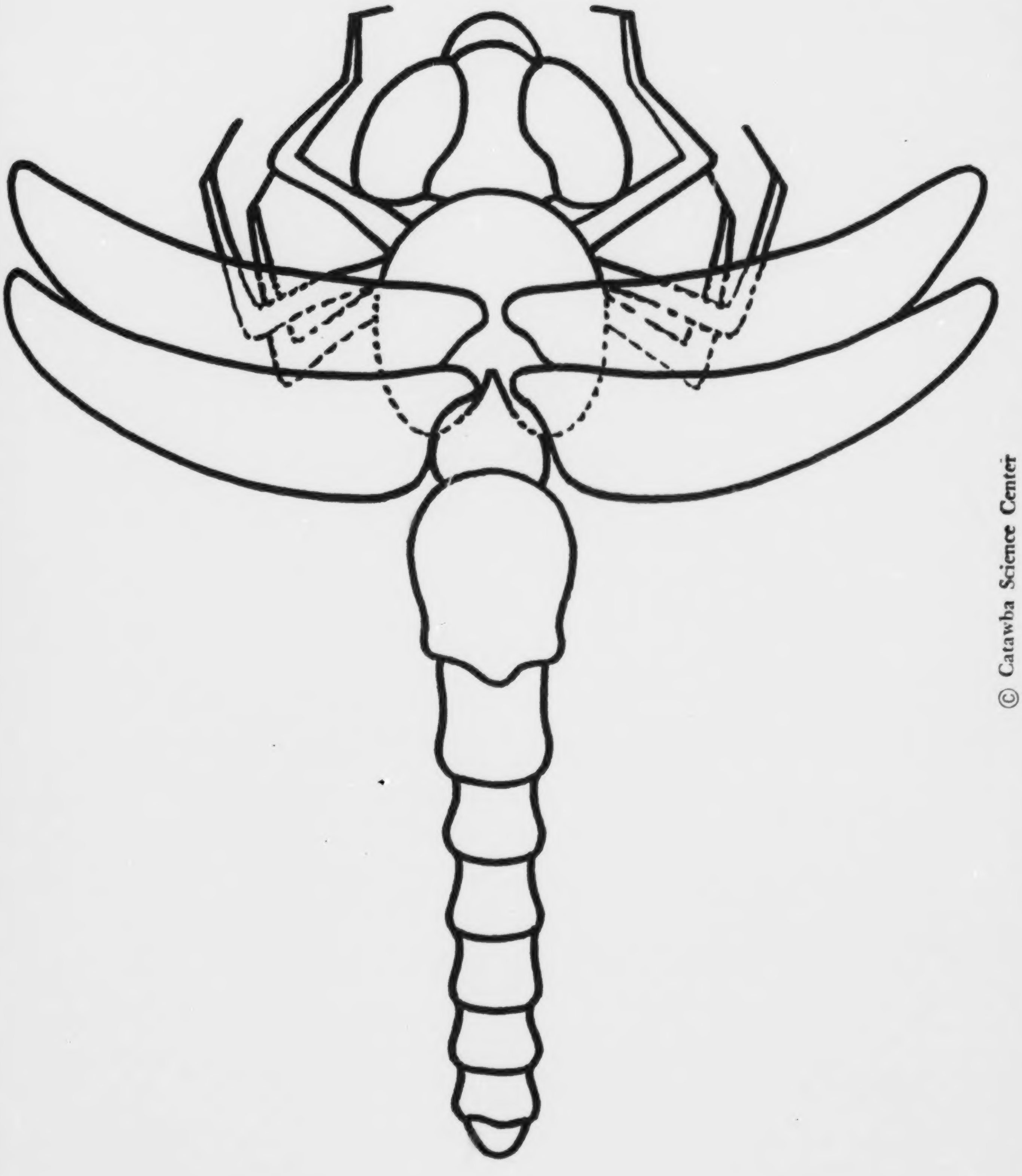

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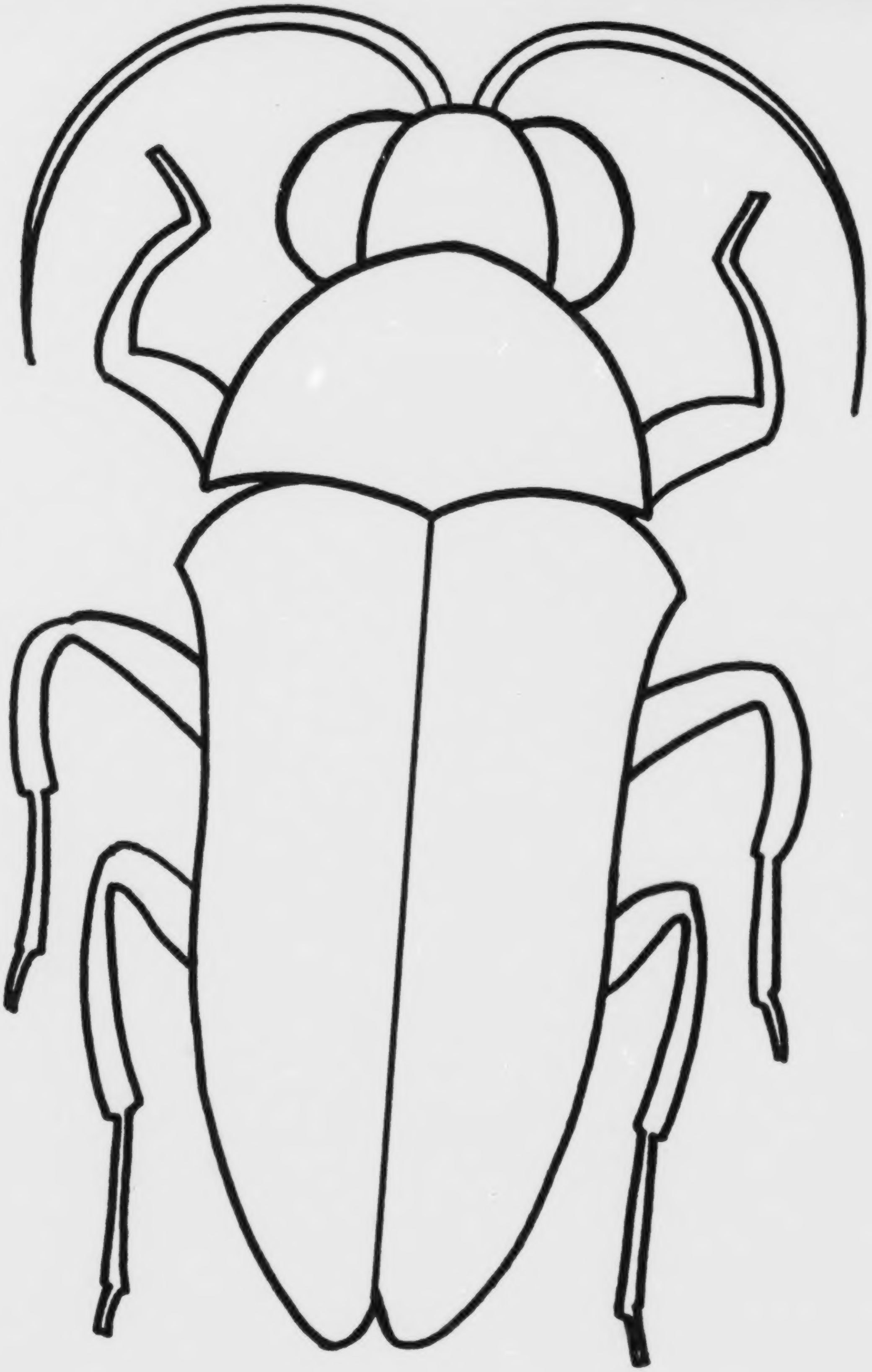

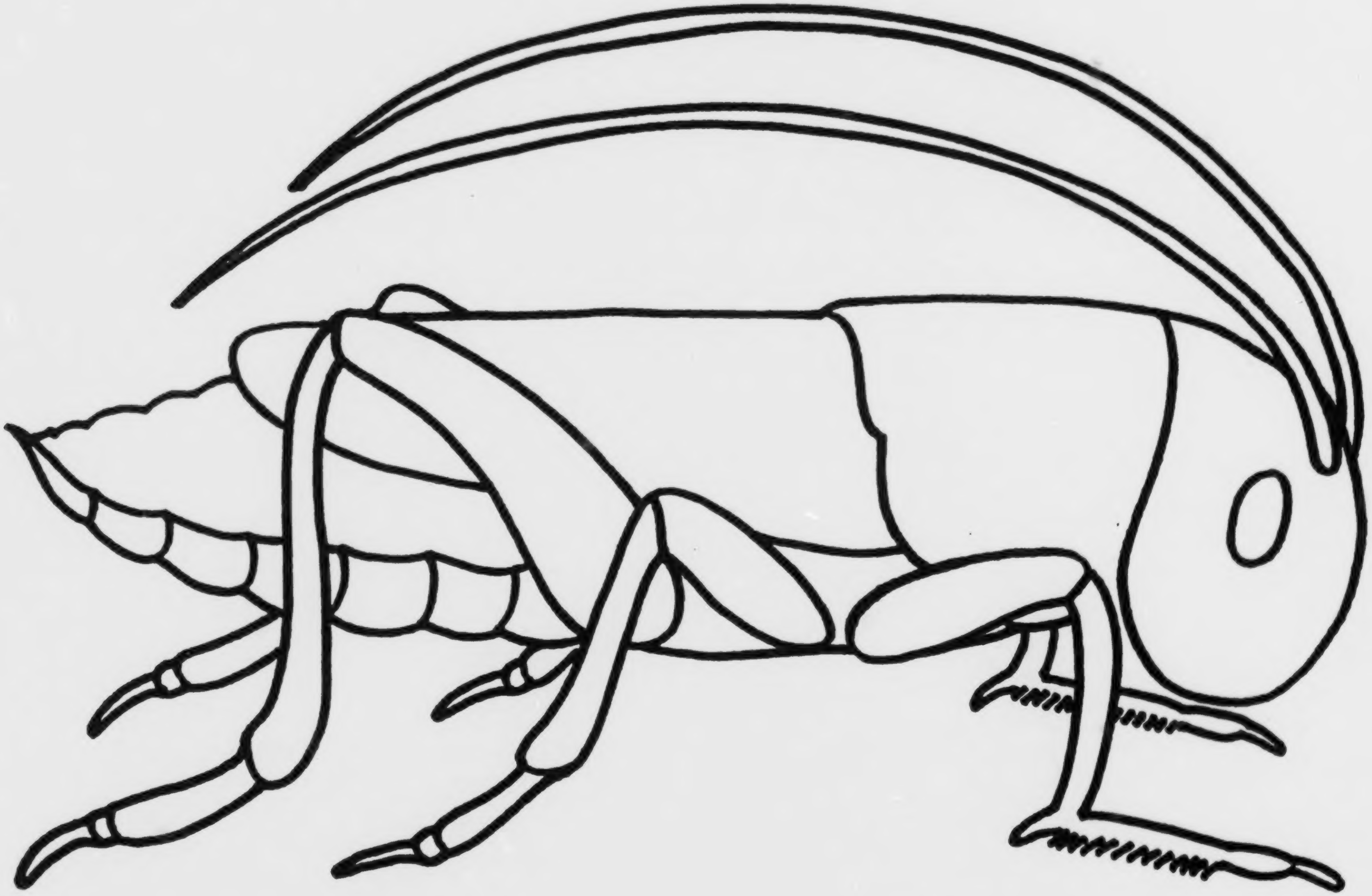

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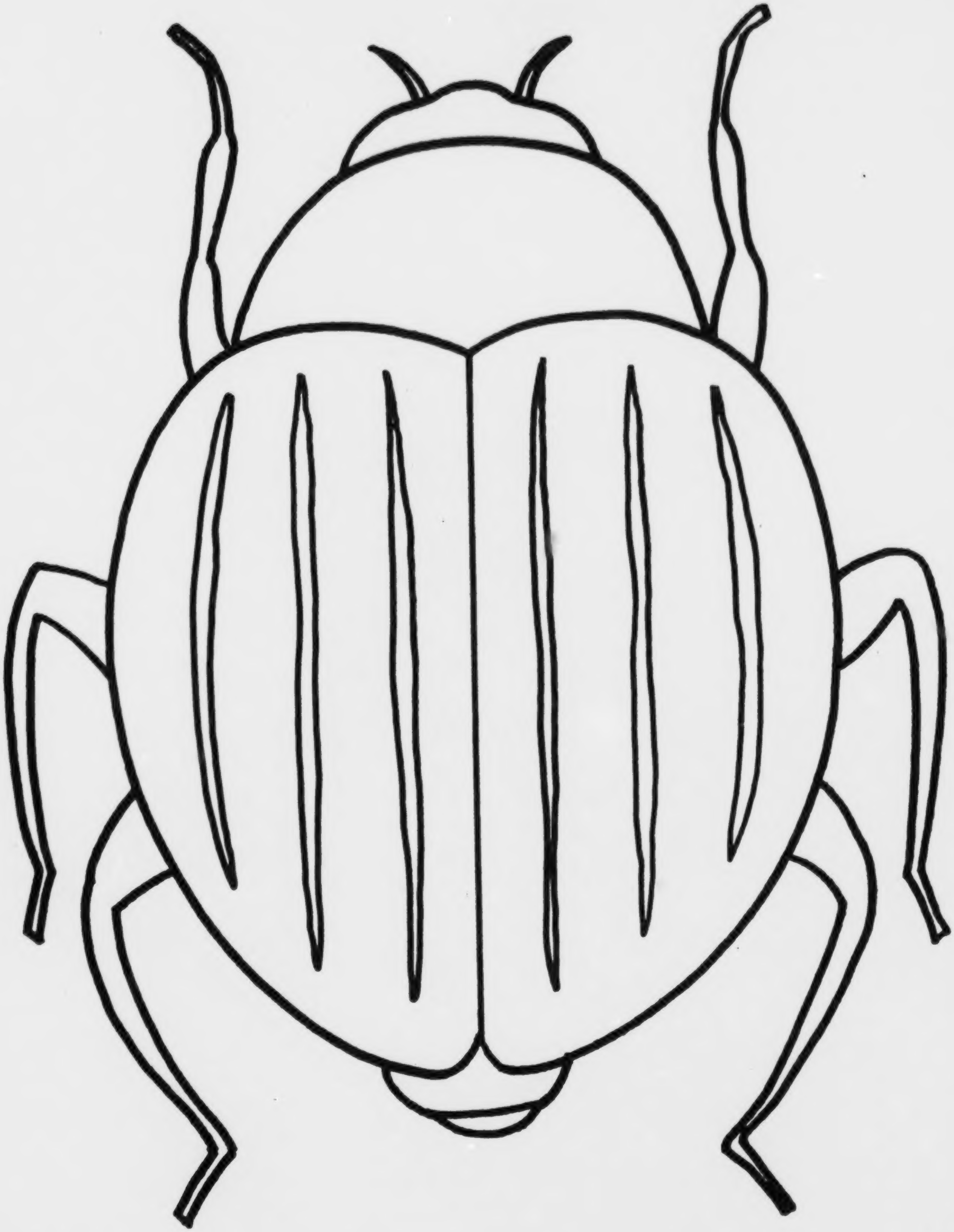

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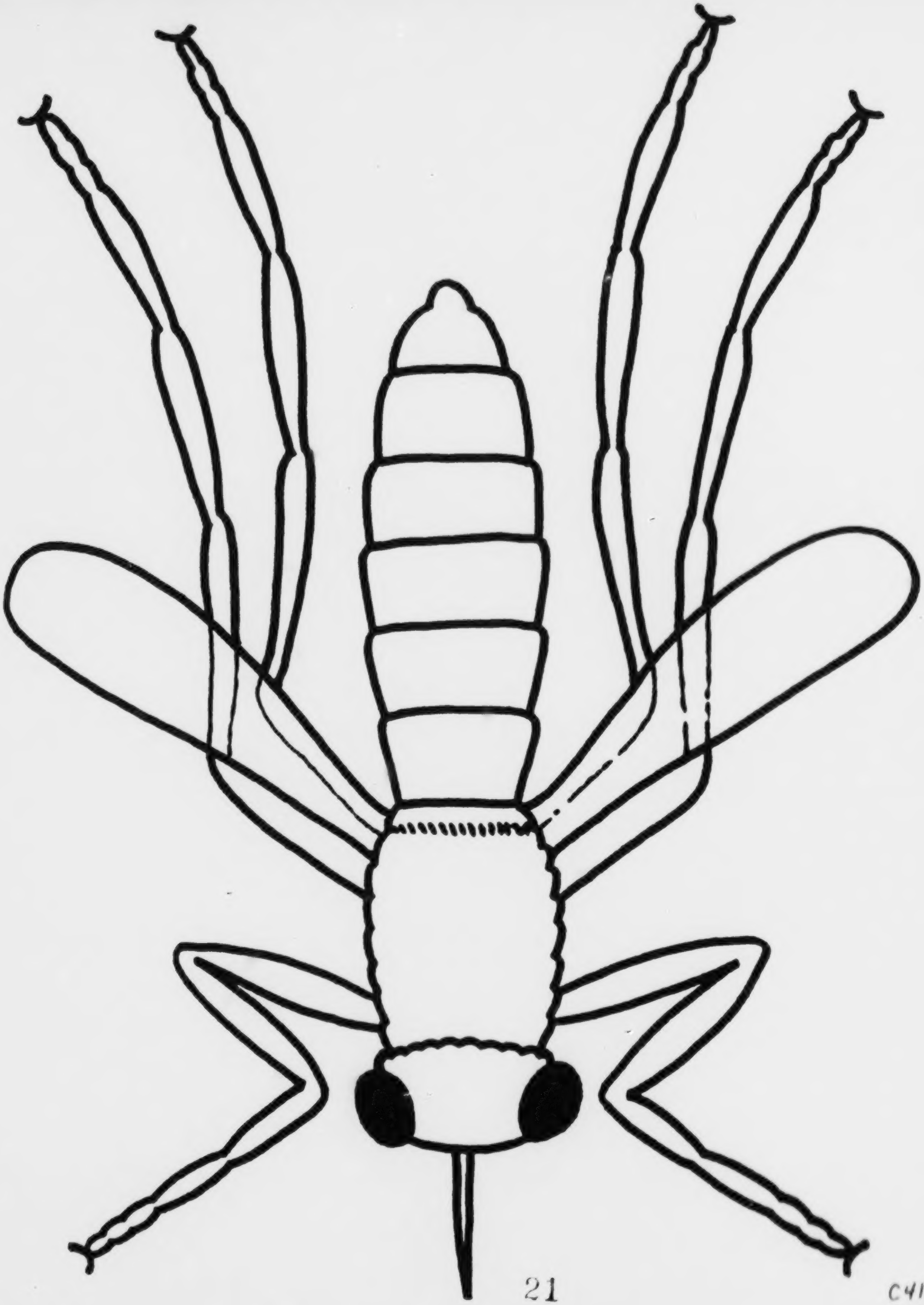

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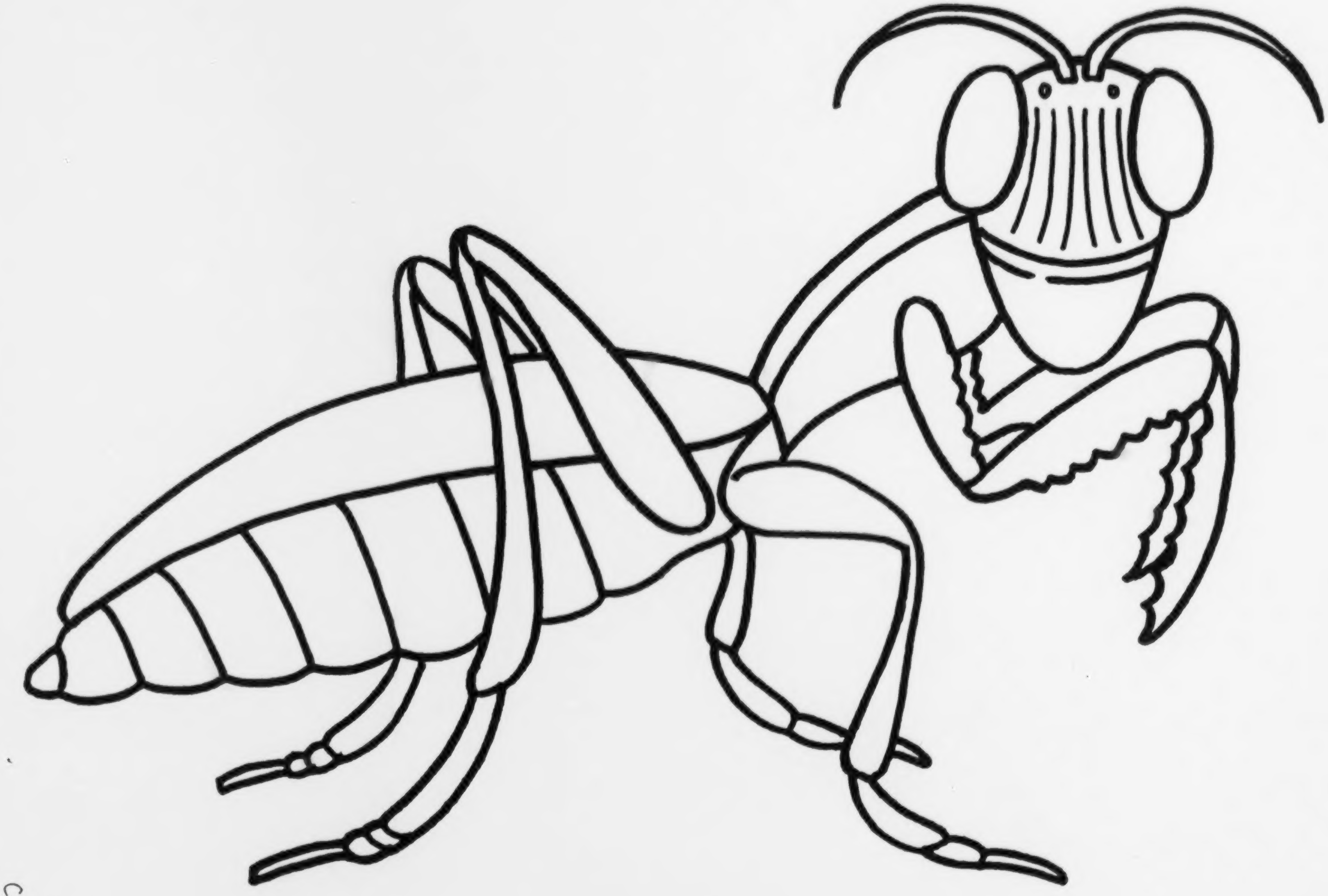

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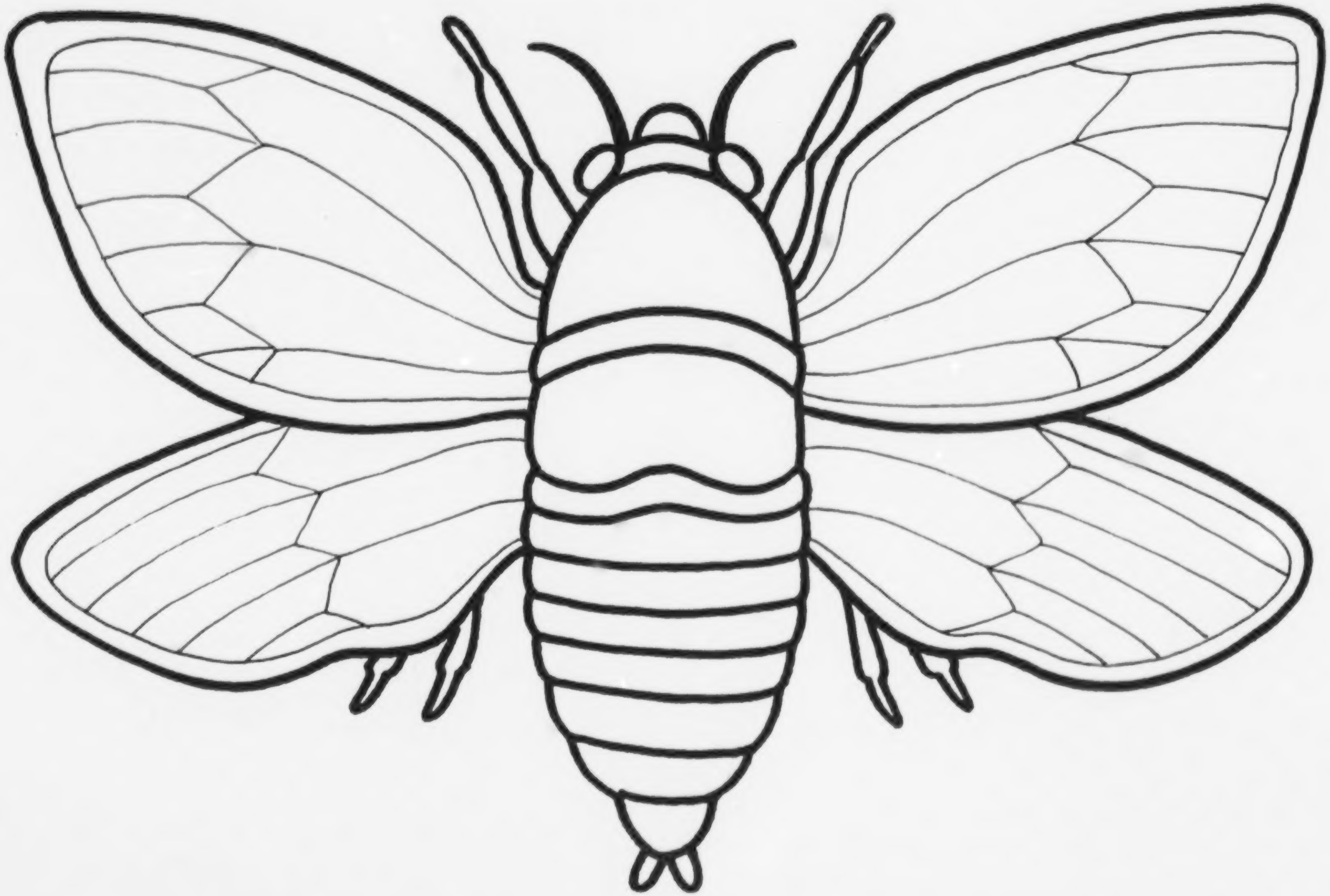

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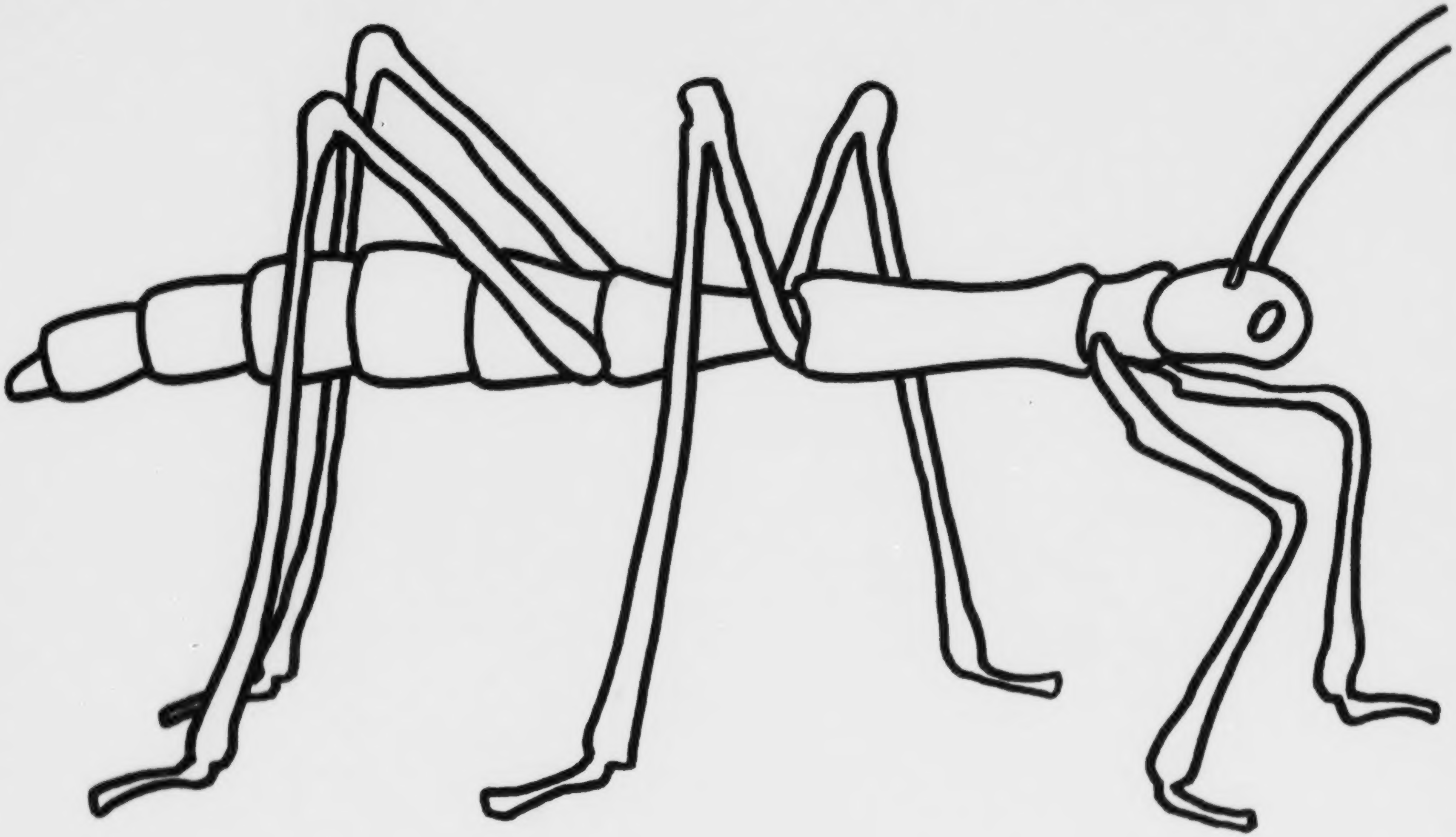

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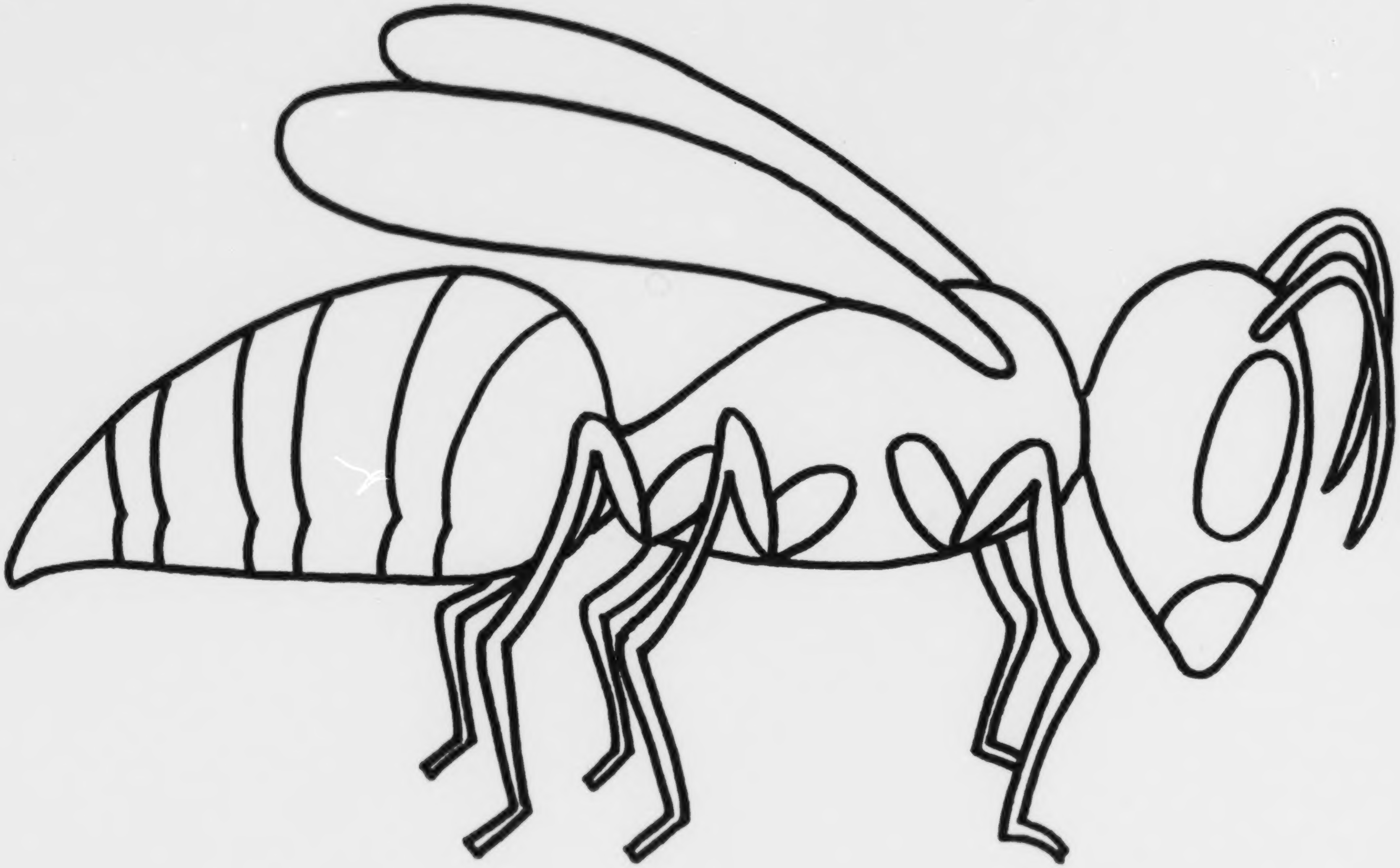

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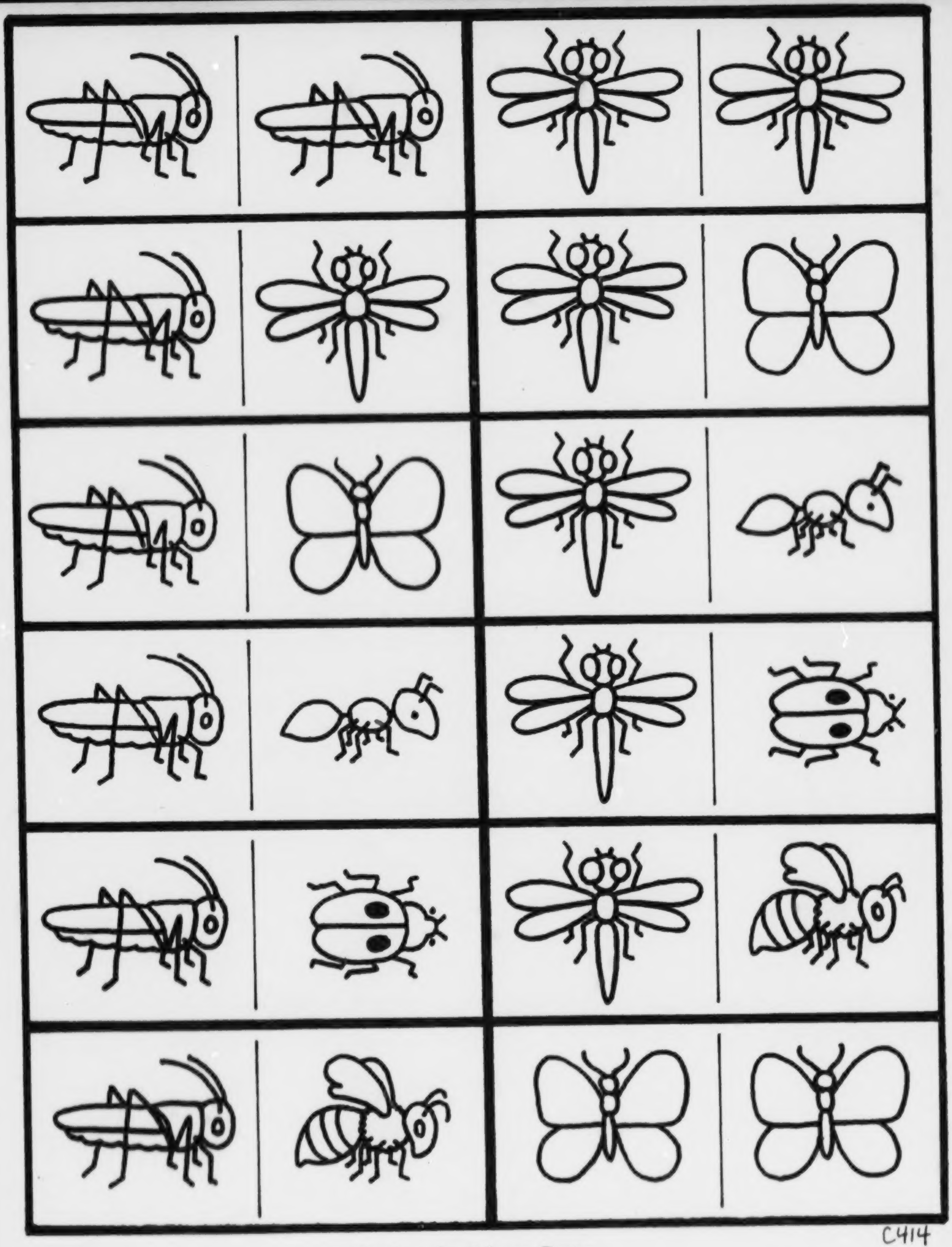

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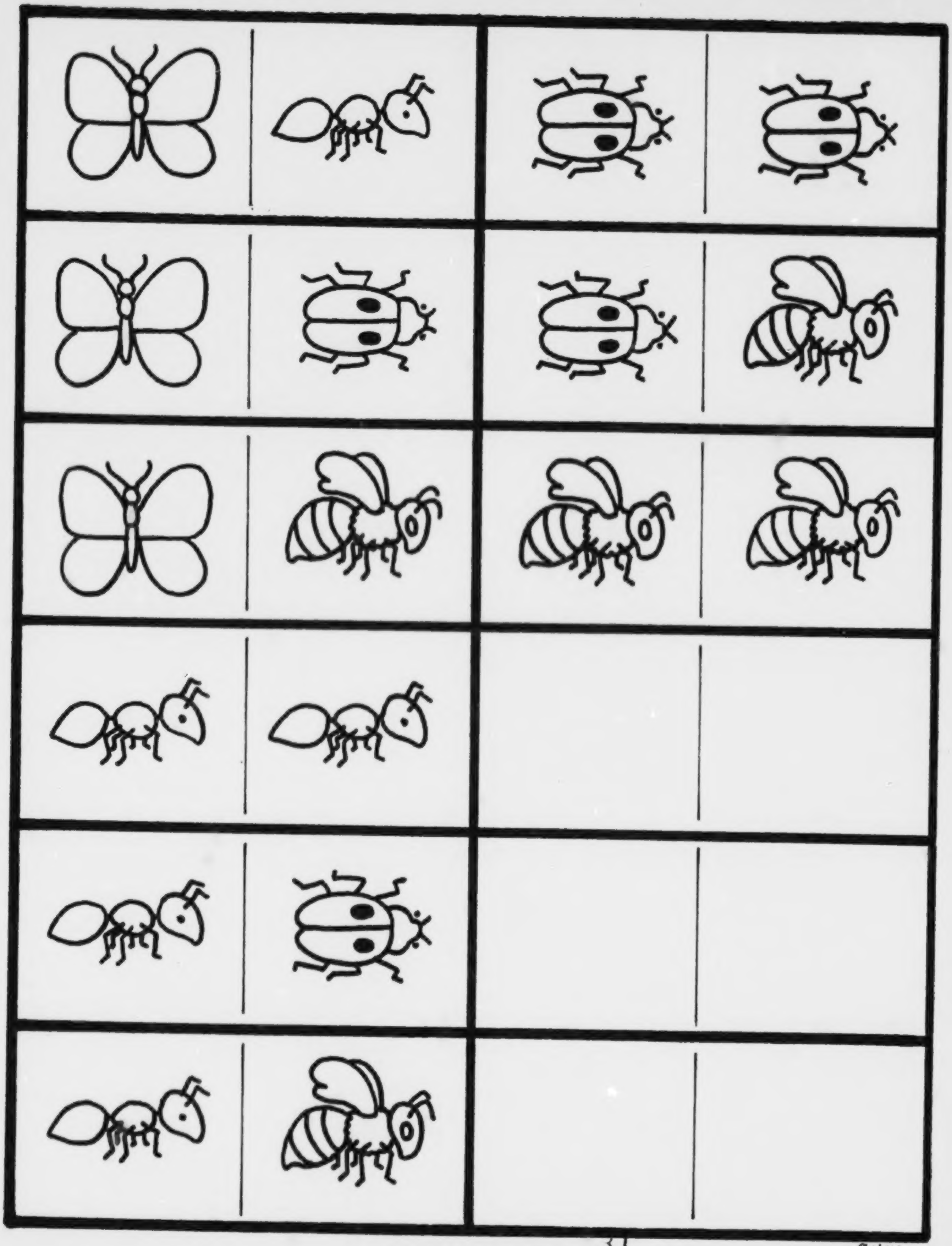

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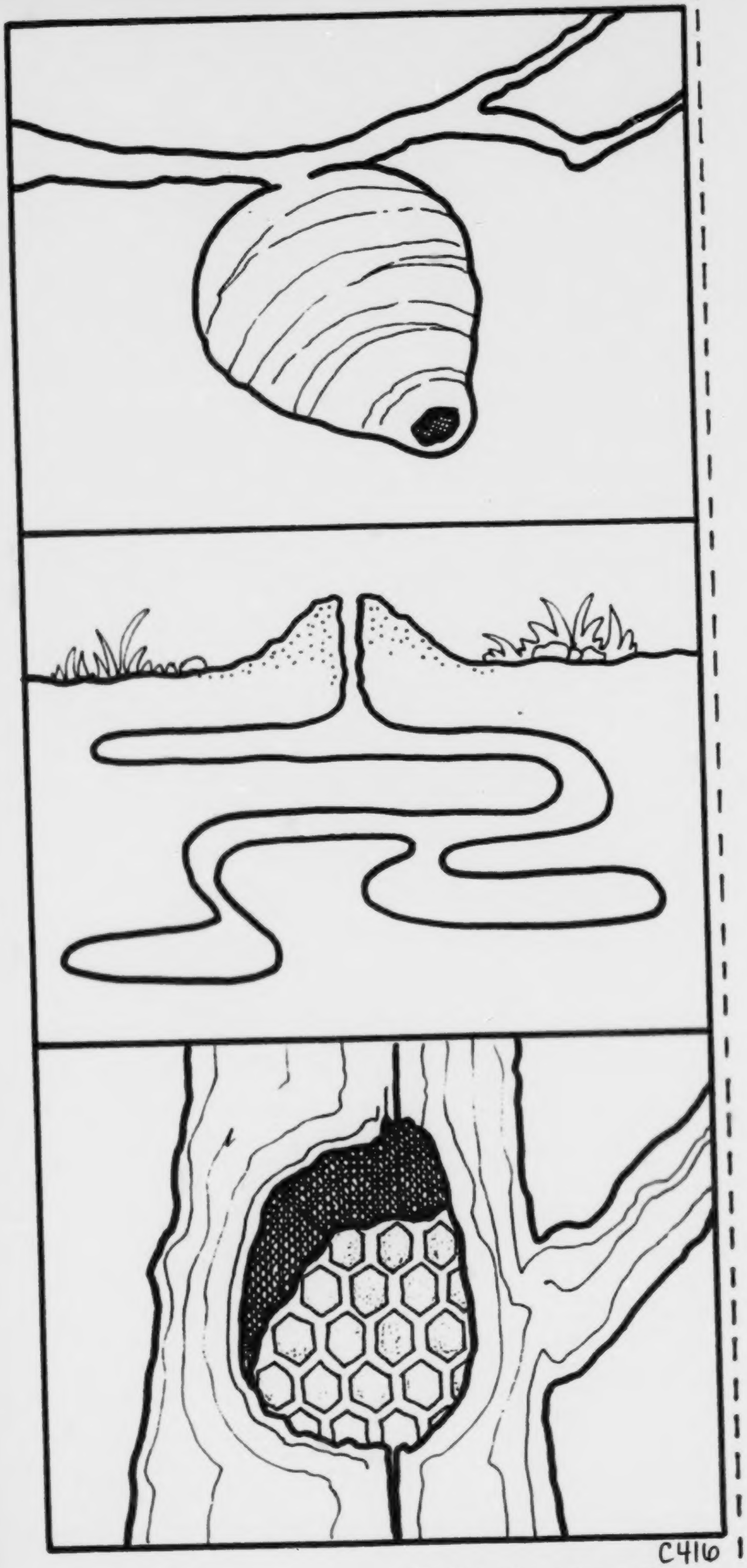

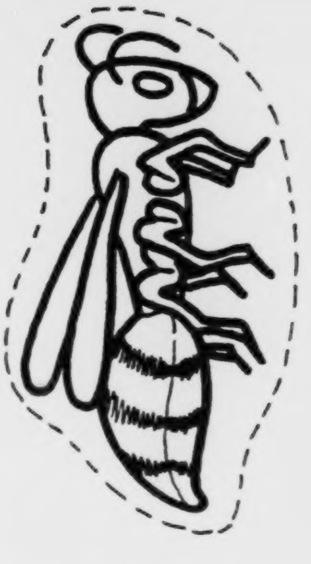

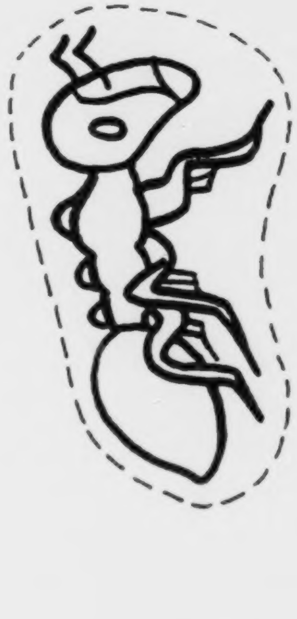

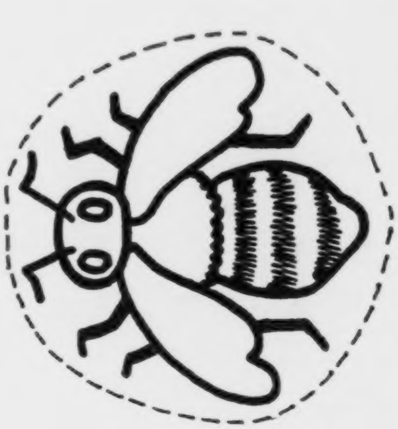

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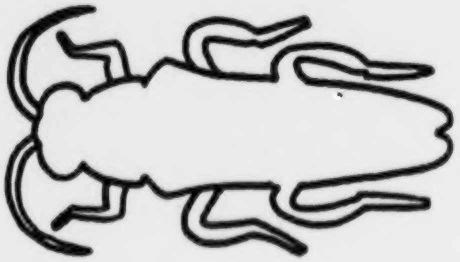

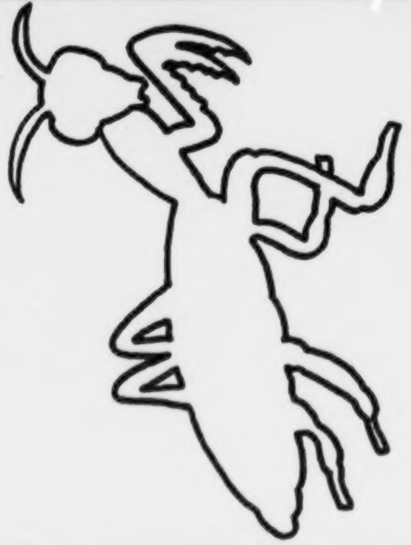

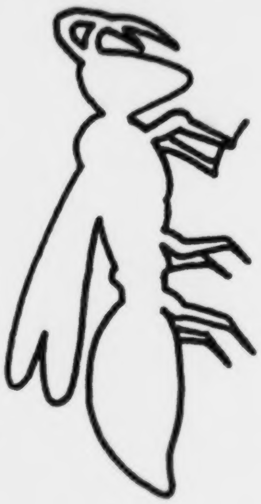

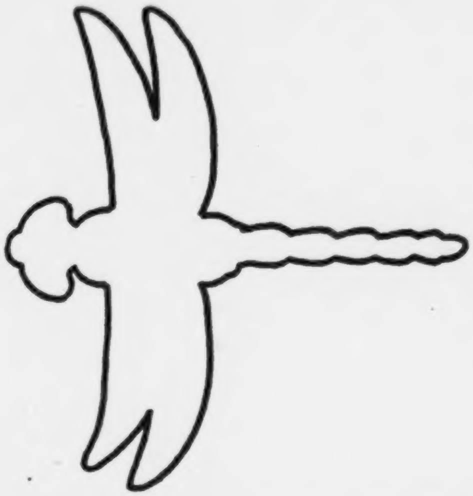

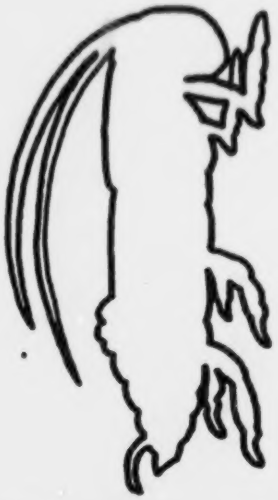

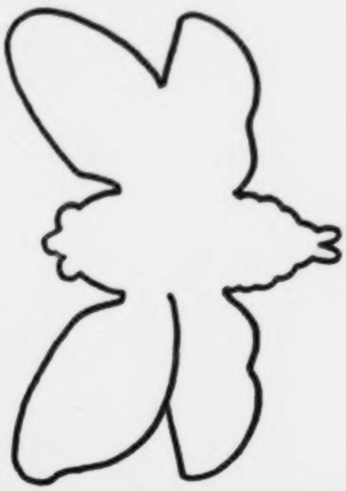

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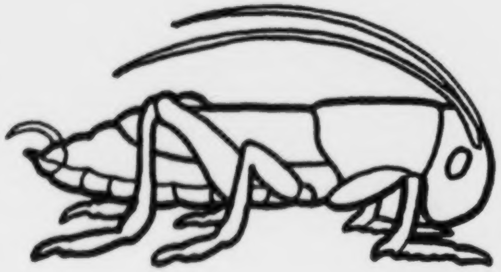

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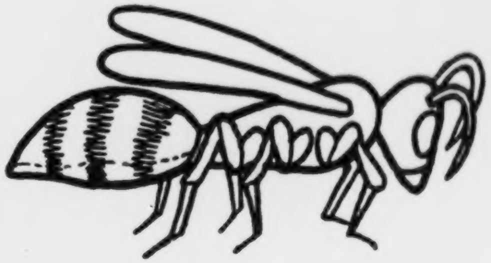

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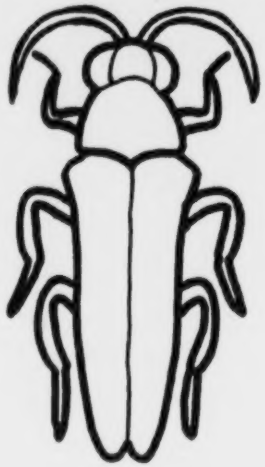
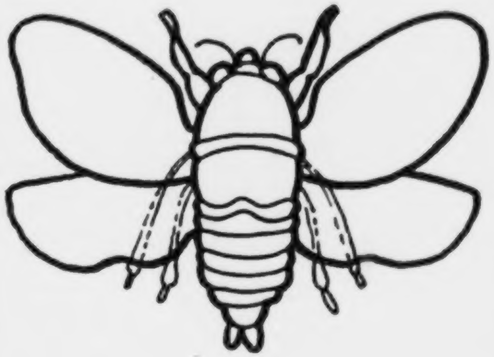
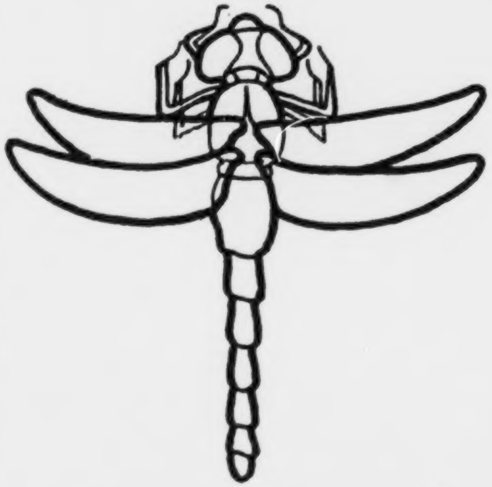


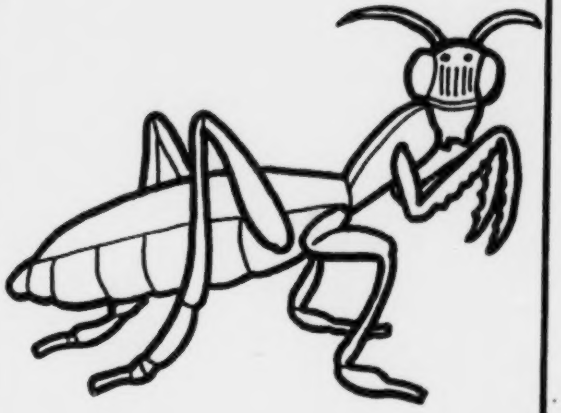
firefly



cicada



dragonfly



praying mantis

C417

CREEPY CRAWLIES

Four-Year-Olds

Session 2

CONCEPT: Spiders are not insects. (Children will become familiar with spiders and why they are not insects: two body parts, eight legs.)

PROCEDURES:

1. Gather the children in a circle group. Open with a name fingerplay to distribute name tags/review names. Introduce concept with a spider fingerplay.

2. Read The Very Busy Spider. Ask children to watch for the spider, and to try and figure out why it is called very busy.

3. Use the tarantula and praying mantis puppets to talk about differences between spiders and insects. Ask children if they can show you how the bodies are different; the difference in number of legs. Ask the children which one has more legs. Also, ask the children if they see any other differences. Let children count the legs with you using the puppet.

4. Put up the flannel board insect, count the parts, and then put up the flannel board spider. Let the children tell you how the spider and insect are different.

5. Next, show the children the live tarantula. Ask the children to describe what they see. Let them help you count the legs. Let them tell you what they think he would feel like.

6. Tell the children that you would like some help to sort insects and spiders. Put out rings made of yarn. Ask the children to help you sort the insects from the spiders. Dump out the plastic insects and spiders. Next, use the spider puppet to reiterate the features of a spider and put him in one hoop. Then, use the insect puppet for insect features and put it into the second hoop. Last, let the children help you to sort the plastic insects/spiders into the rings. Be sure and talk about why you are putting the insects/spiders where you are.

7. Tell the children that some spiders can hurt them and make them very sick. (If possible, show preserved examples of poisonous spiders such as a black widow, scorpion, or brown recluse.) Talk about how the poison helps the spider survive. Remind the children that it is important to respect other animals in their environments.

8. Do a creepy crawlie fingerplay (repeat the opening concept fingerplay or select another creepy crawlie fingerplay) to resettle the group and prepare to disperse to centers. Once attention is regained, explain the center options available for that day. After you have explained the centers, ask the children to choose where they would like to go. As they

choose, send them on their way. Allow the children to freely play and choose another center as they finish each task. Be sure to float from center to center and interact with the children as they play to reinforce the concepts for the day. Play music from the record Insects, Bugs, and Squiggly Things while children are in the centers. The center options today are:

A. Provide the tarantula in a center for children to observe. Provide magnifiers for the children to have the opportunity to closely examine the tarantula. Ask the children why it is not an insect. How many legs, body parts, etc.? Allow 2 children at this center.

B. Provide the spider flannel board set for the children to build a spider. Have the children help count the body parts and number of legs on the spider. Discuss the differences between a spider and an insect. Allow 2 children at this center.

C. Provide an assortment of preserved spiders in bug boxes for the children to observe. Ask the children to notice the differences between the spiders and what we have learned about insects. Also, ask the children to notice the similarities and differences between the spiders they are looking at now. Allow 3-4 children at this center.

D. Provide plastic plates with edges snipped and yarn so the children can weave their own webs. Talk to the children about how a spider makes his web and why. Ask the children how long it takes a spider to make a web, and why it is hard for us to see. Allow 3-4 children at this center.

E. Provide an assortment of fact and fiction books on spiders for children to read. Ask the children to compare the spiders in the books, how are they alike or different. Read the books to the children at their request. Allow 3-4 children at this center.

F. Provide plastic insects and spiders in this center for the children to sort. Ask them to think of different ways to sort them after they have sorted them into spiders and insects. Allow 3-4 children at this center.

G. Provide a spider and insect floor puzzle in a center for children to put together. See if the children can pick out the spiders/insects. Remind them to think about the different characteristics for a spider and an insect. Allow 2-3 children at this center.

H. Provide cards that show a spider building its web for the children to sequence. An adult should be at this center to remind children what they have learned about web building. Remember to use cue words such as first, next, and last. Allow 2 children at this center.

I. Provide the praying mantis and tarantula puppets in a center. Encourage the children to make up stories. Help the children get started if they need it by giving them a story starter. Example: One day a spider was busy building his web when... Allow two children in this center.

10. Two minutes before you are ready for the children to clean up turn out the lights and make an announcement to warn them to begin finishing up whatever they are working on. After two minutes, turn out lights again and ask the children to clean up. Call children back to the group circle with a song. Allow each child to share one thing they learned or played with during center time. Then, have the children help you make a web. Use a ball of yarn and toss back and forth around circle to form web. Play the song "Spunky, Spunky Spider" from Insects, Bugs and Squiggly Things. While you rewind the yarn, talk to the children about how spiders catch the food they eat. They make webs to catch insects. Ask children where spiders might build their webs. Encourage the children to think of places spiders could build webs to catch flying insects or crawling insects.

11. Close by using the puppets to ask children if they remember the differences between spiders and insects. If they cannot tell you, use the puppets to remind the children.

12. Sing the good-bye song and collect the name tags.

## RESOURCE KIT

1. Use the patterns to make a variety of spider puzzles for children to put together.

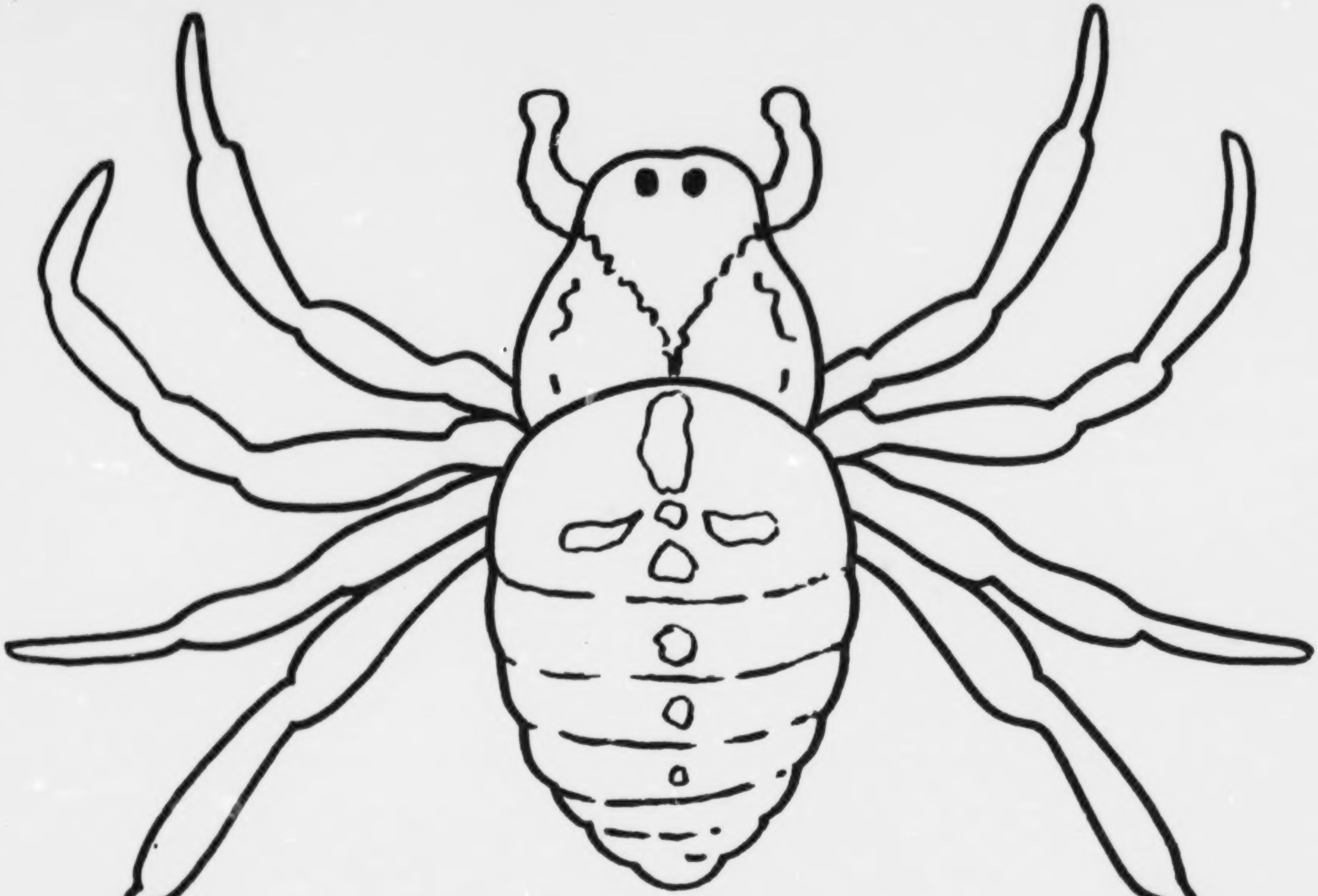
2. Use the patterns to make a spider lotto game in which children have to find a match for each spider on the game board.

3. Use the patterns to make a large tarantula flannel board set.

4. Provide plastic spiders and webs (made from plastic plates wrapped with yarn) for counting.

5. Use the patterns to make sequence cards for how spiders spin a web.

6. Suggest an art activity: make spider plop prints by dipping plastic spider-on-a-string into paint and plop onto paper.



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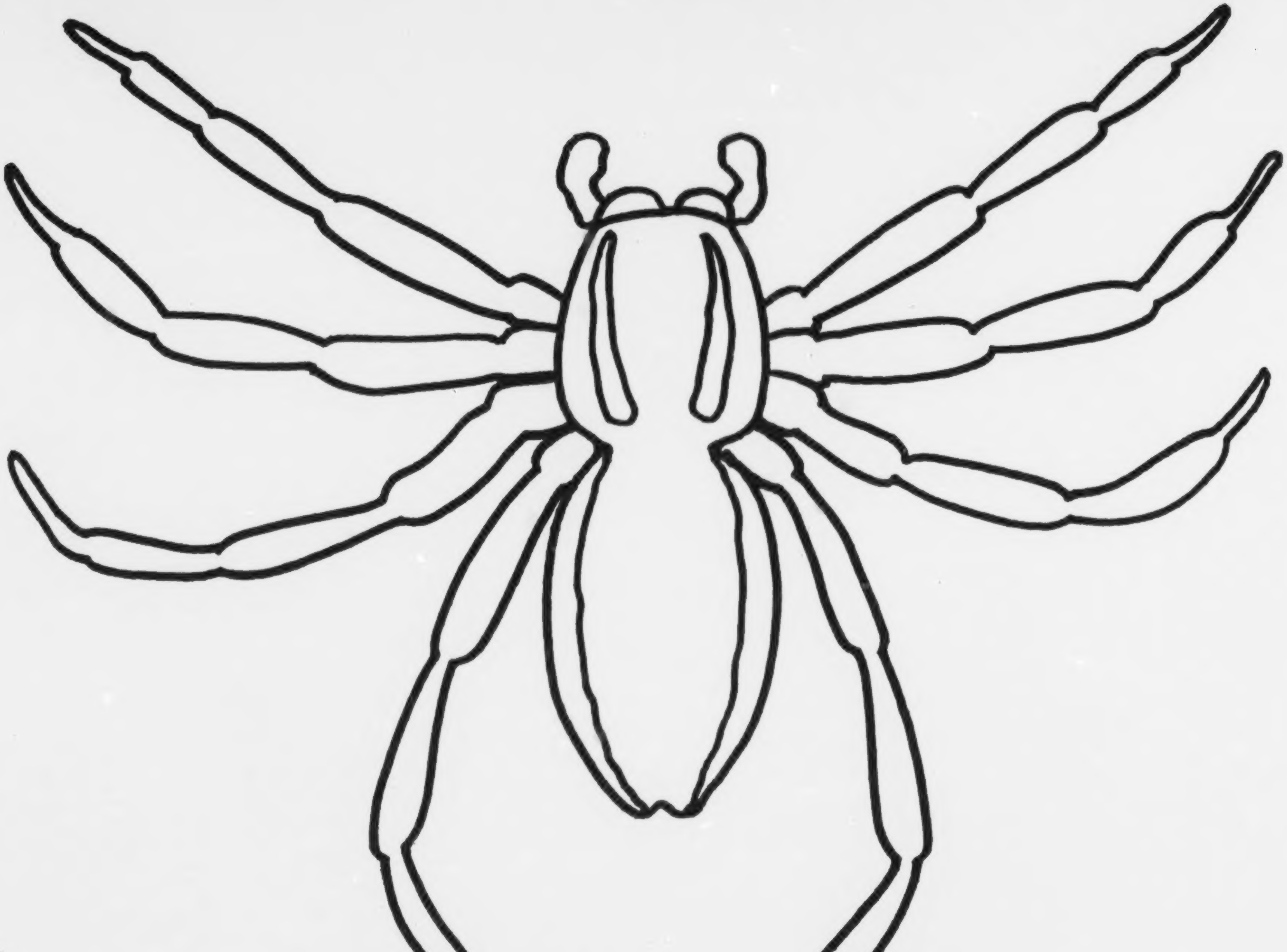

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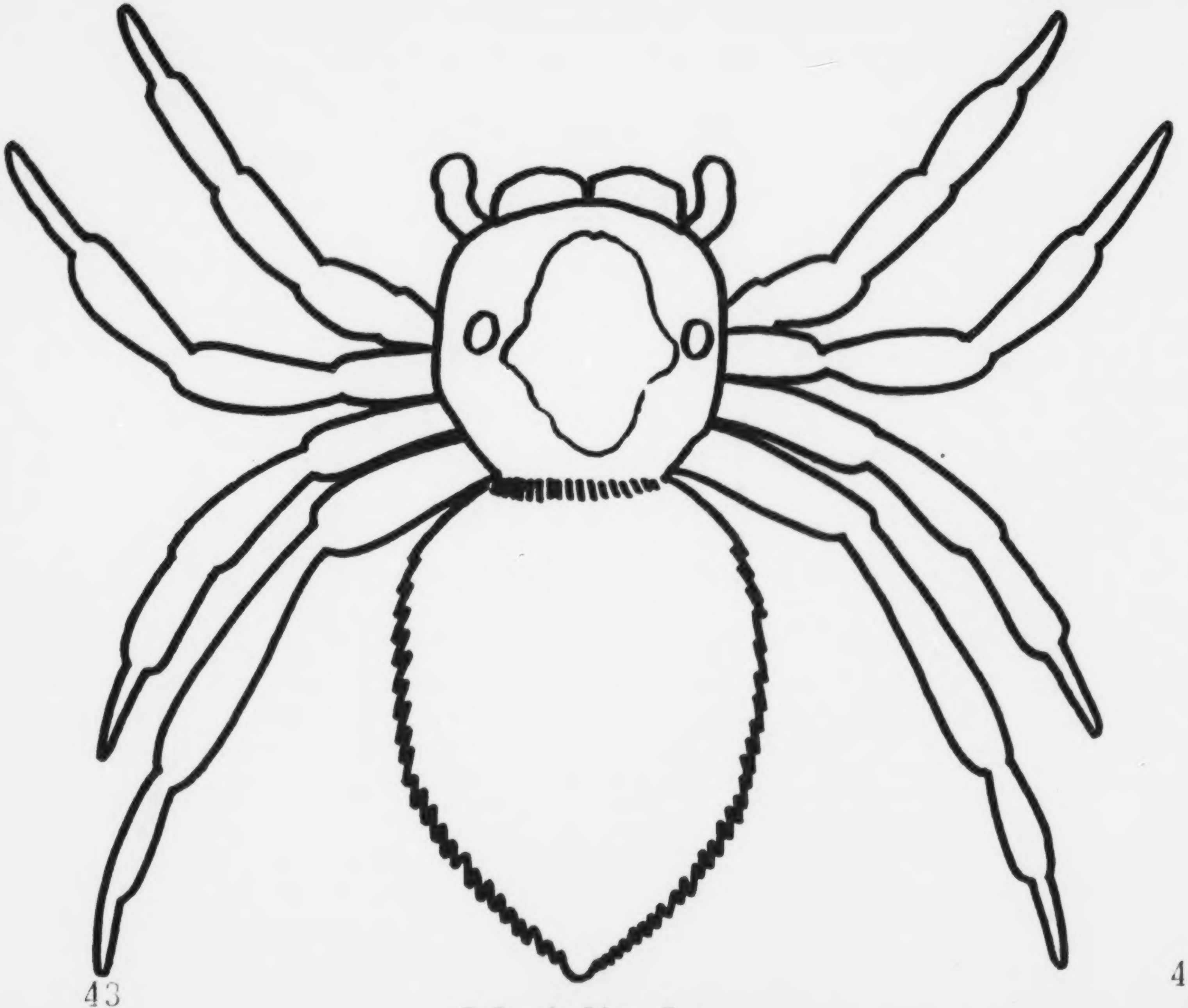

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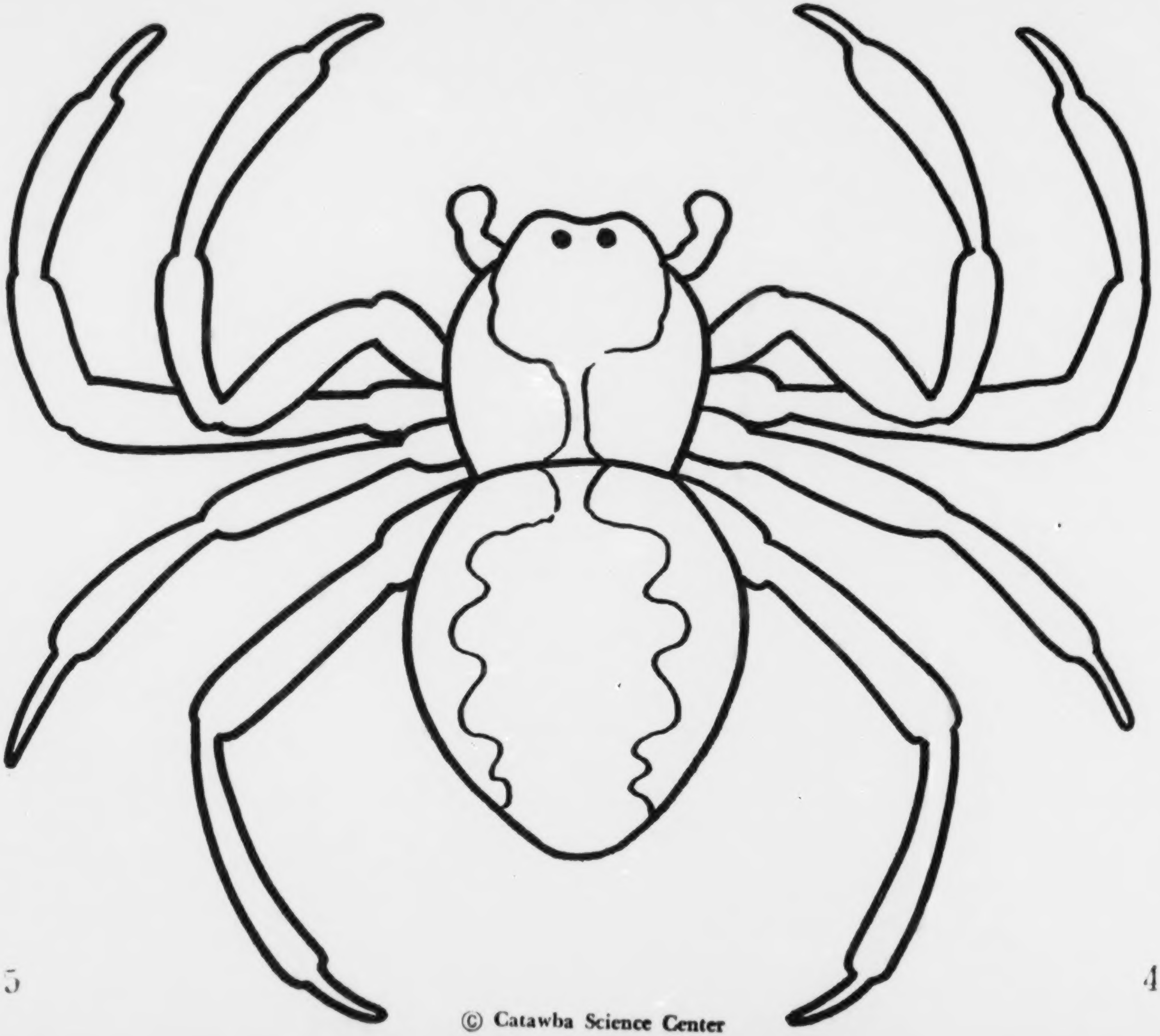
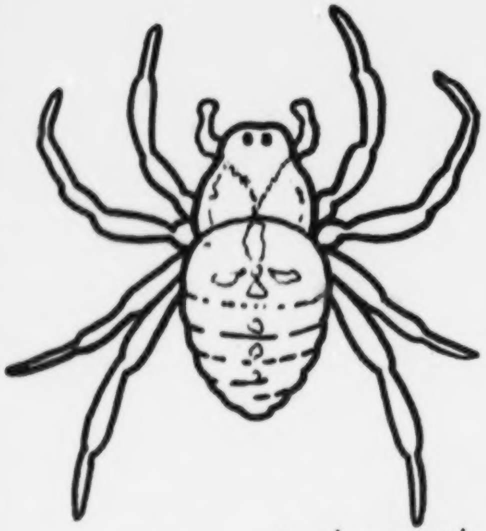
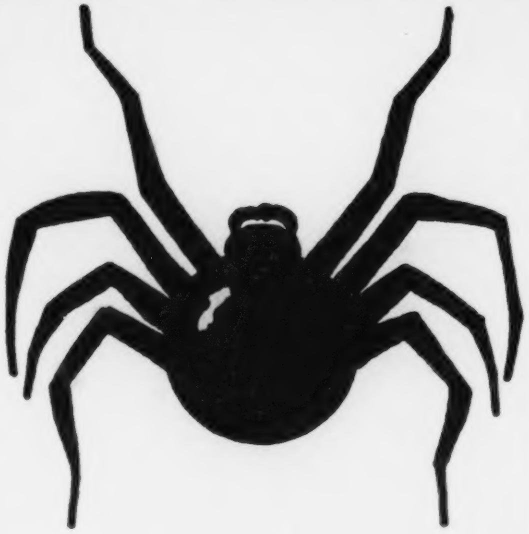
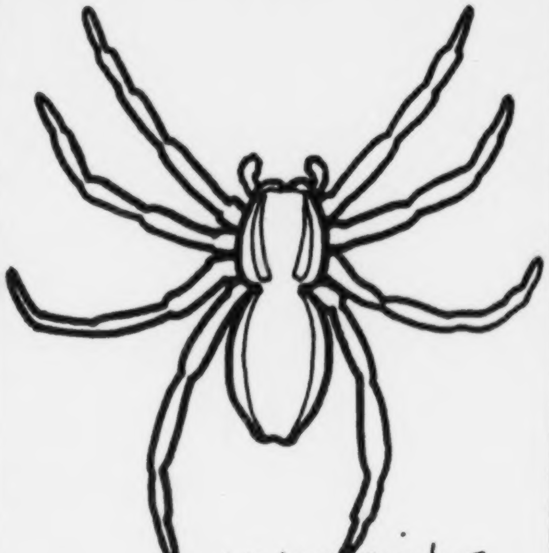




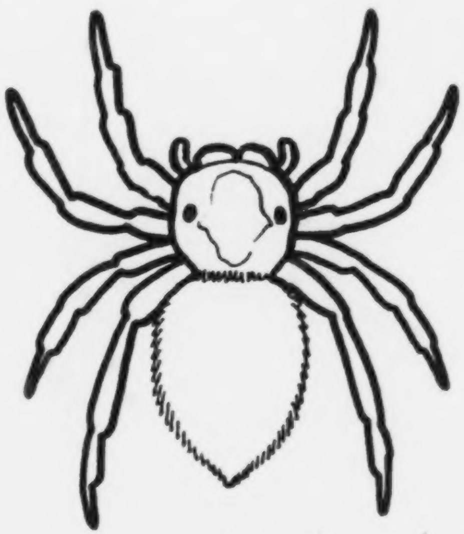
garden spider



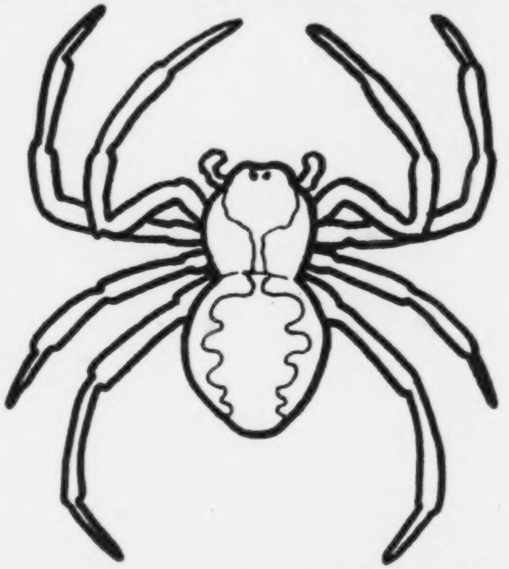
black widow spider



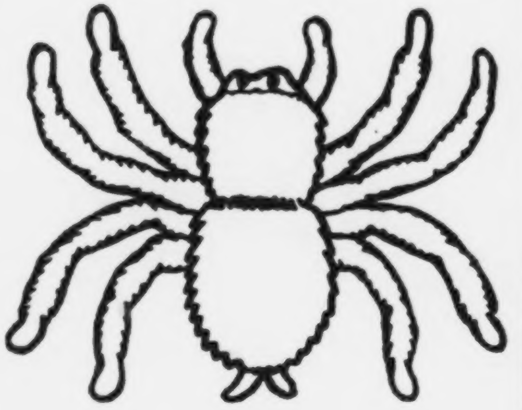
water spider



jumping spider

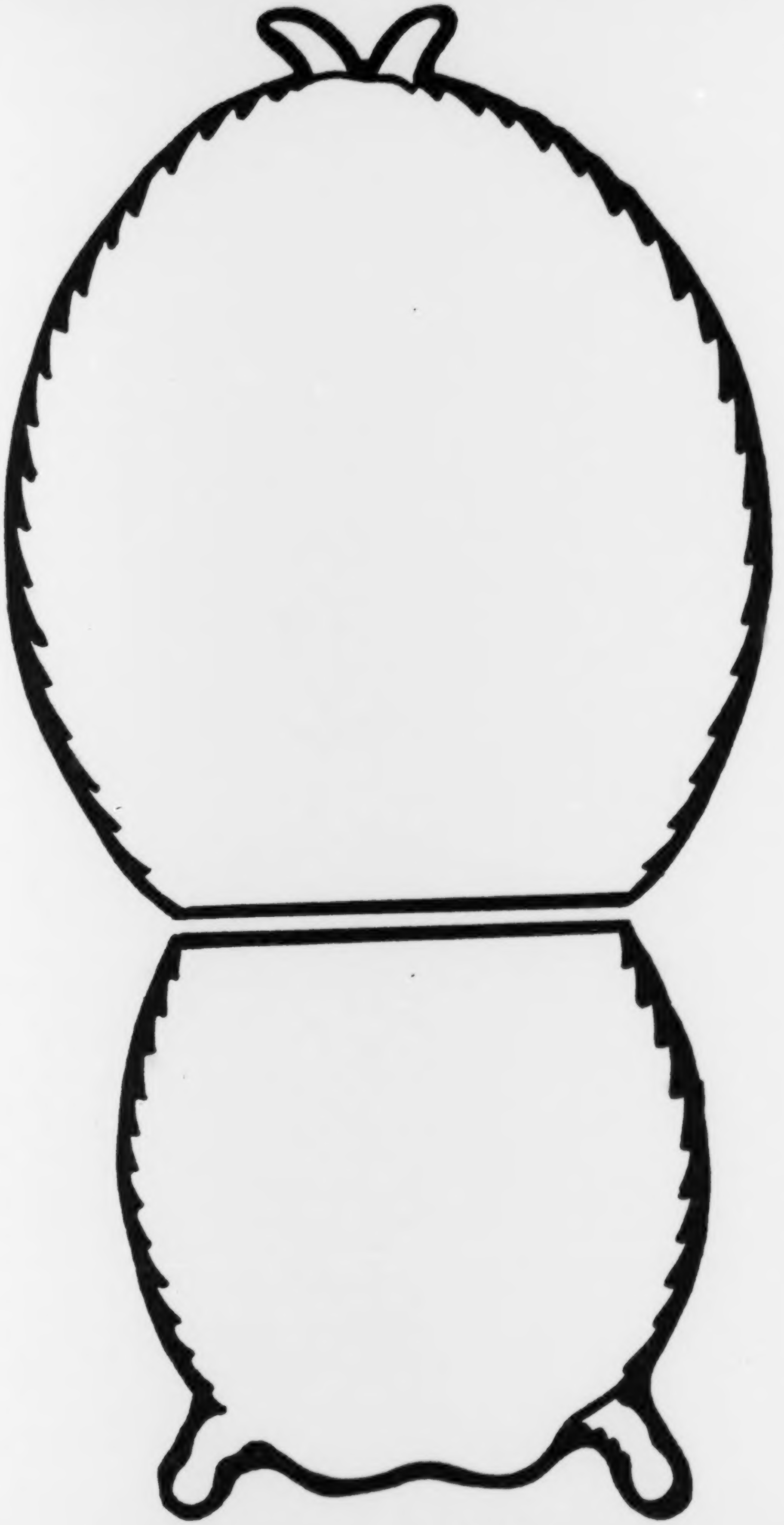


orb weaver spider



tarantula spider

C422



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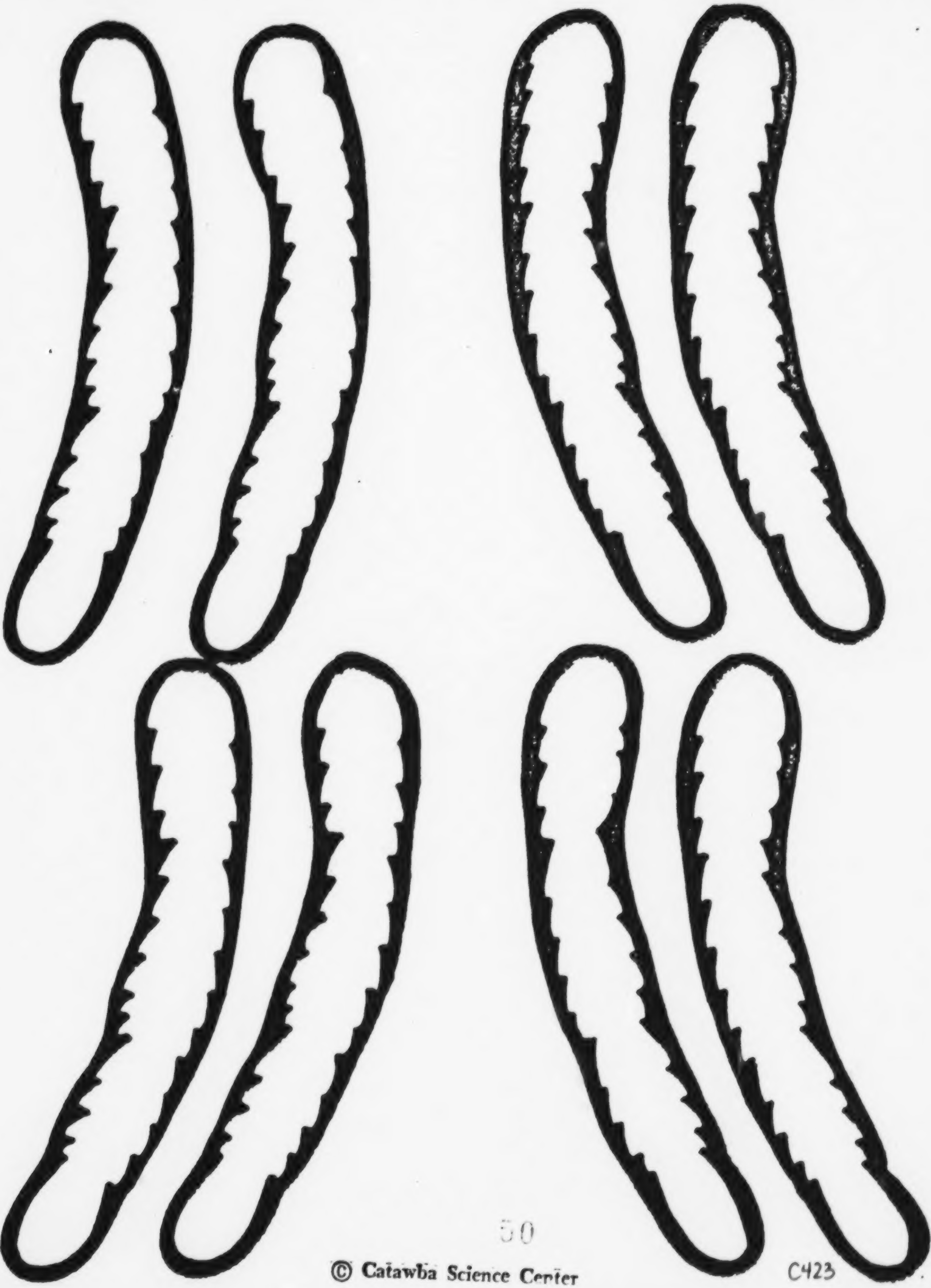

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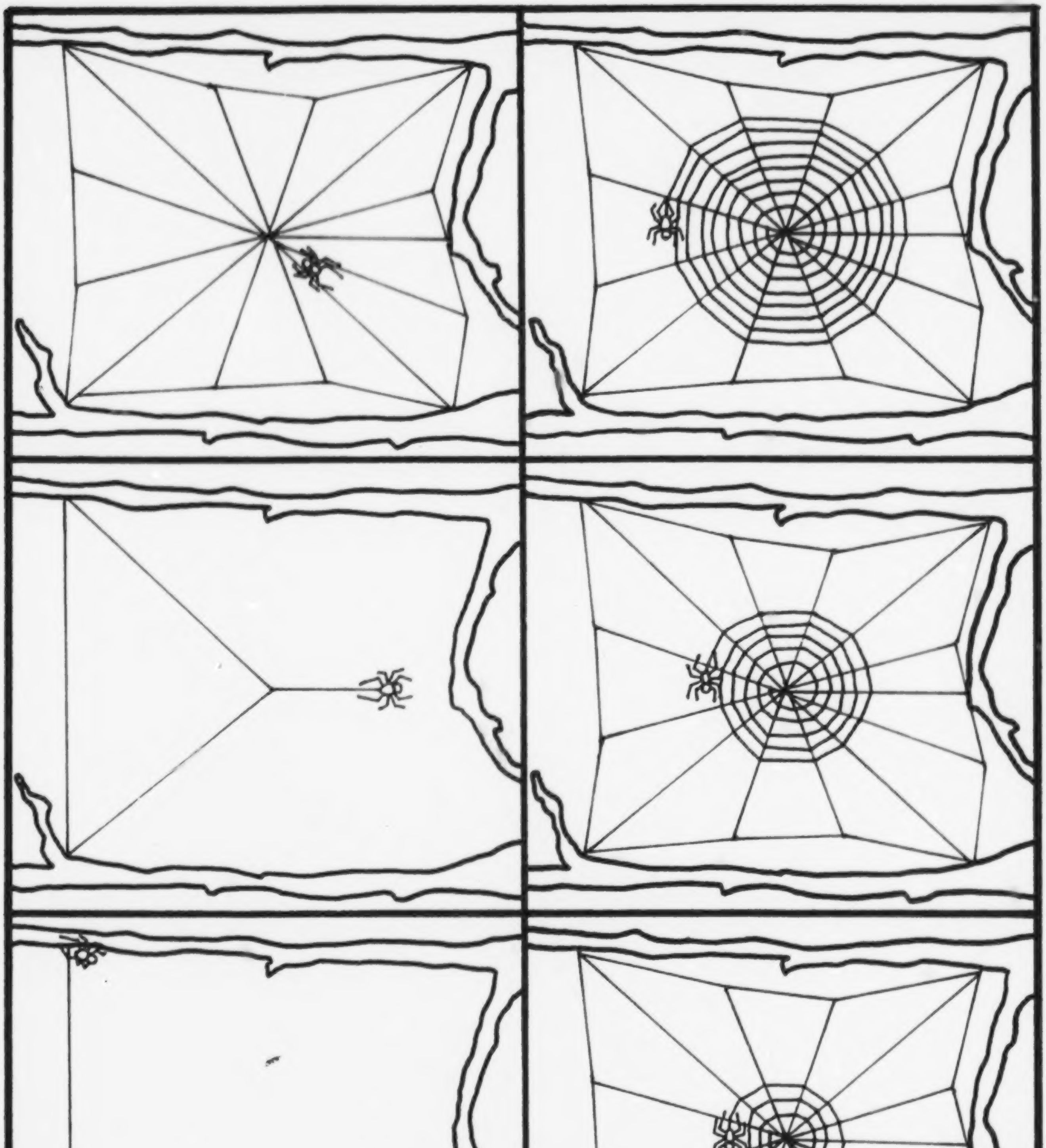


C 425

CREEPY CRAWLIES

Four-Year-Olds

Session 3

CONCEPT: Creepy crawlies change. (Children will become familiar with creepy crawlies that change as they grow.)

PROCEDURES:

1. Gather the children in a circle group. Open with name fingerplay. Introduce concept by doing fingerplay about how frogs grow and change.

2. Show children the flannel board of life cycles of the guinea pig. Discuss how it changes as it grows. Use the flannel board of the butterfly life cycle to show children how it changes as it grows. Talk about how people change as they grow, too. Talk about how some stages are the same and some stages are different.

3. Read The Caterpillar and the Polliwog. Ask the children to watch for the different creepy crawlies that they see. Also, ask them to watch for the polliwog and how it changes as it grows.

4. Review changes with the tadpole/frog puppet and caterpillar/butterfly puppet. Reintroduce the term metamorphosis. Remind them that metamorphosis means change. See if they can remember the stages and tell them back to you.

5. Using the tadpole/frog flannel board let the children tell you how the changes occur. Put up the flannel board pieces as you go.

6. Have the children act out the changes that a tadpole goes through to become a frog. You help them by leading the different stages.

7. Show the children the Frog Life Cycle poster or a preserved diorama of stages of frog growth. Point out the features of the tadpole as it changes. Ask the children to help you notice the differences in the frog in each stage. Tell the children that toads go through the same changes. Then, talk about the differences between frogs and toads. Tell the children that frogs have smooth skin and toads have bumpy skin.

8. Show the children the tadpole habitat that you brought with you. Tell them that you are also leaving behind live tadpoles for them to watch grow into frogs. Show the children the tadpoles. Introduce the word amphibian and that it means that the creepy crawlies spend part of their life on land and part in the water.

9. Do a creepy crawlie fingerplay (repeat the opening concept fingerplay or select another creepy crawlie fingerplay) to resettle the group and prepare to disperse to centers. Once attention is regained, explain the center options available for that day. After you have explained the centers, ask the children to choose where they would like to go. As they choose, send them on their way. Allow the children to freely play and choose another center as they finish each task. Be sure to float from center to center and interact with the children as they play to reinforce the concepts for the day. Play music from the record Insects, Bugs, and Squiggly Things while children are in the centers. The center options today are:

A. Provide frog See-Quees in center for children to put together. Talk with the children about the different stages that the tadpole must go through to become a frog. Ask the children how this is similar to a caterpillar/butterfly metamorphosis. Allow 2-3 children at this center.

B. Provide counting frogs and paper lily pads numbered from 1 to 10 so that children can count out frogs. Question the children about which pad has the most and the least. Allow 2-3 children at this center.

C. Provide in a center the frog puzzles that children can put together. Ask children to notice the things that are alike or different about the frog puzzles. Allow 3-4 children at this center.

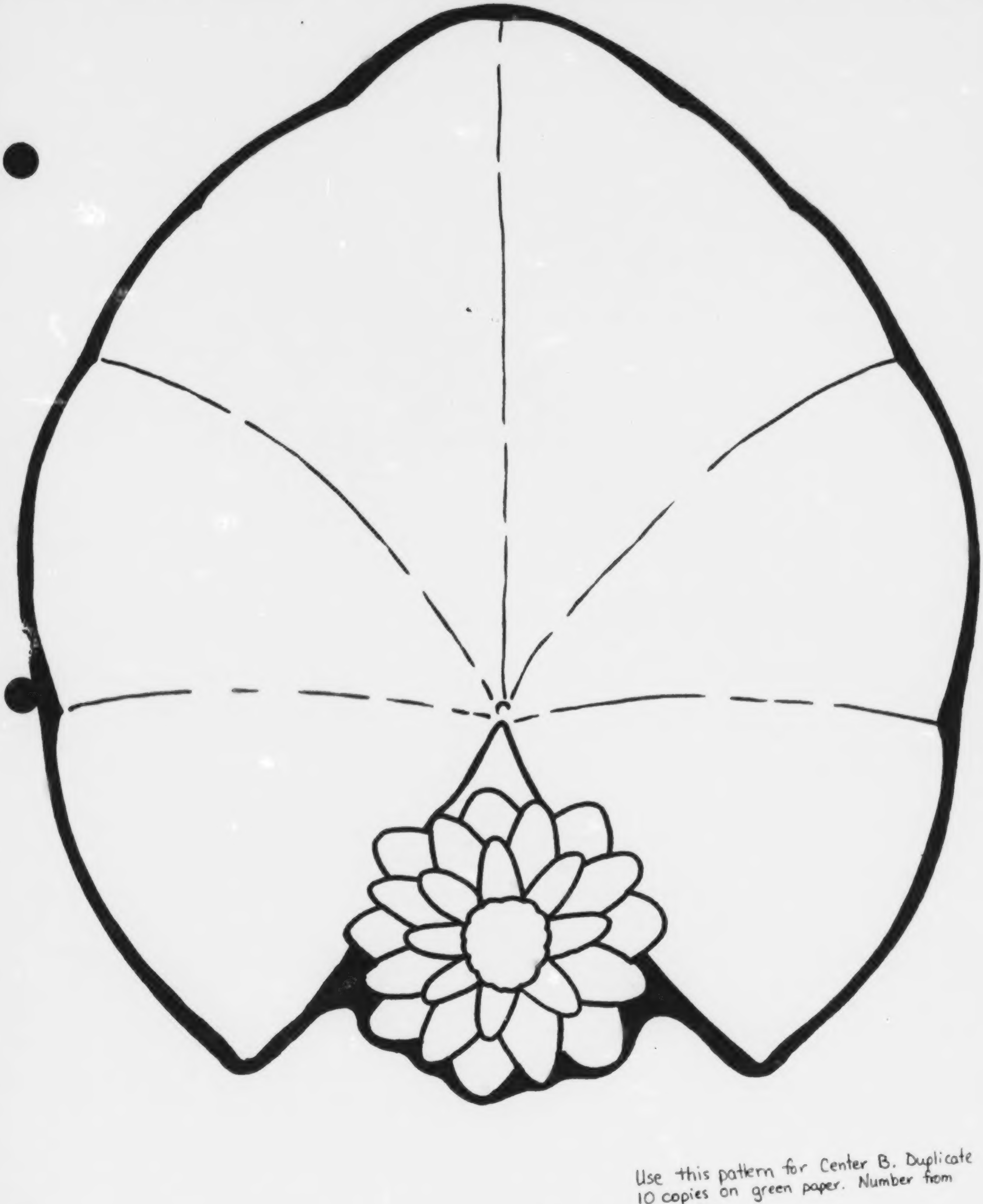
D. Provide the frog and caterpillar puppets in a center. Encourage the children to create stories and reenact the changes that these creepy crawlies undergo. Allow 2 children at this center.

E. Provide books in a center. Include fact and fiction books about frogs and other amphibians. Talk with the children about the difference between frogs and toads. Ask them to look at things that are alike or things that are different about the amphibians in the different books. Allow 3-4 children at this center.

F. Provide pictures of the poison dart frogs to match. Talk about the habitat of these frogs and their coloring. Have the children describe what they are seeing. Allow 2-3 children at this center.

G. Provide the live tadpoles for the children to observe. Ask the children what tadpoles have that frogs don't have and vice-versa. Allow 3-4 children at this center.

H. Provide pairs of regular and a variety of plastic poison dart frogs for the children to match. Place this center next to center (F) above so children might match frogs to their picture. Allow 2 children at this center.



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Use this pattern for Center B. Duplicate
10 copies on green paper. Number from
one to ten.

I. Provide a feely box with bumpy and smooth items inside. Ask the children to feel inside and sort the items that are bumpy into a toad basket and the items that are smooth into a frog basket. Allow 2 children at this center.

10. Two minutes before you are ready for the children to clean up turn out the lights and make an announcement to warn them to begin finishing up whatever they are working on. After two minutes, turn out lights again and ask the children to clean up. Call children back to the group circle with a song. Allow each child to share one thing they learned or played with during center time. Read Fish is Fish. Ask the children to watch for any amphibians they might see in the book, reminding them that amphibians spend part of their time in the water and part of their time on land.

12. Close with the frog habitat and review what is inside and what will happen. Put the frog flannel board sequence story together as you review. Let the children tell you what comes when. Use cue words to guide them like: first, next, and last.

13. Use the puppet to sing a good-bye song and collect the name tags. Let the children hug and kiss the puppets.

RESOURCE KIT:

1. Leave behind a Raise-A-Frog tadpole/frog habitat and tadpoles so that children can observe changes that occur.

2. Provide a poison dart frog poster to make a matching game.

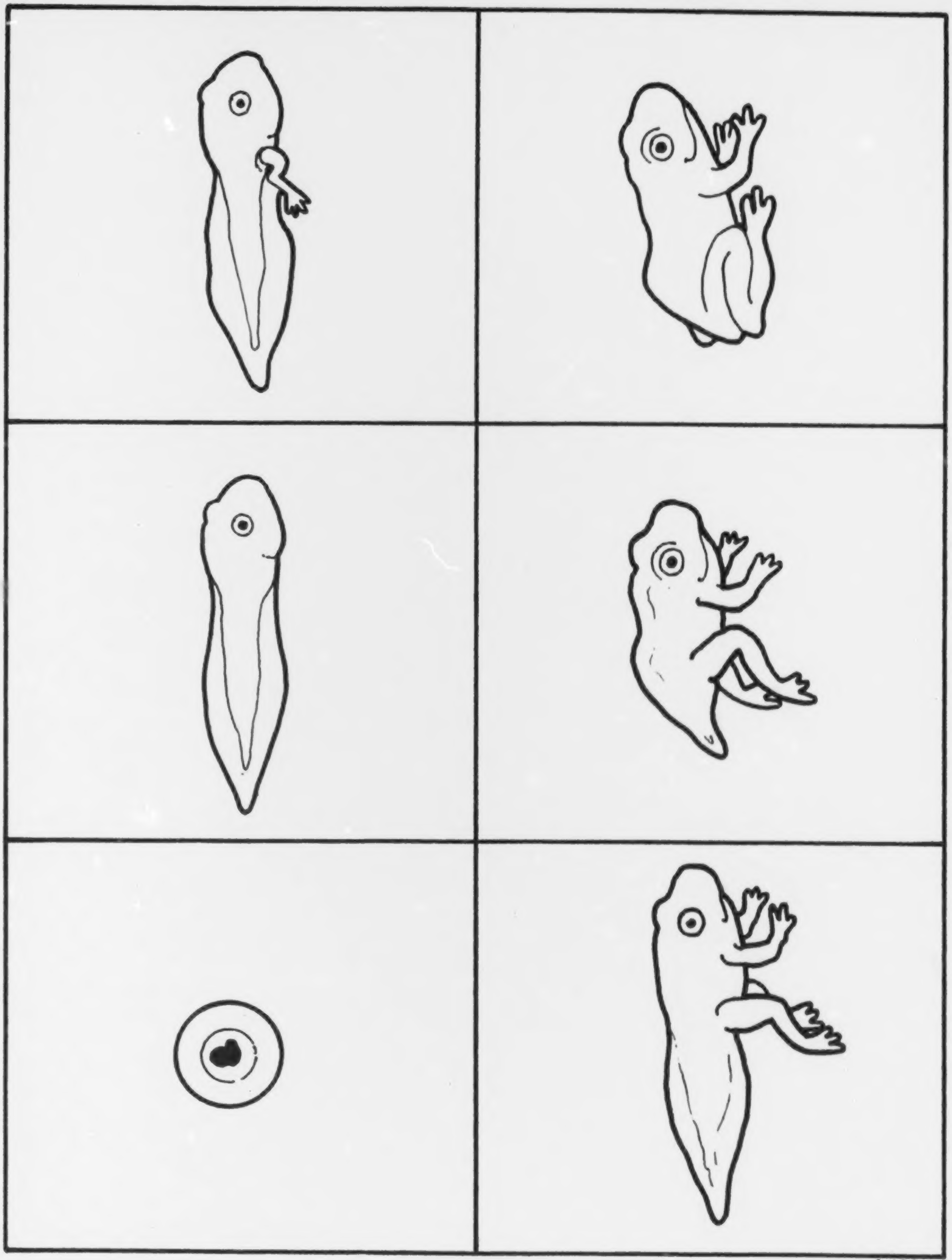
3. Use the patterns to make a sequence puzzle of the metamorphosis of a frog.

4. Suggest that the classroom teacher provide frog note pads that children can use in art center.

5. Provide counting frogs that can be used for counting and sorting activities.

6. Suggest methods to make a feely box with bumpy and smooth items inside.

7. Provide reptile and amphibian stickers.



C433

CREEPY CRAWLIES

Four-Year-Olds

Session 4

CONCEPT: Creepy crawlies hide themselves. (Children will become familiar with creepy crawlies that camouflage themselves with their surroundings.)

PROCEDURES:

1. Gather the children in a circle group. Open with name fingerplay to distribute name tags/review names. Introduce the day's concept with a fingerplay.

2. Read A Color of His Own. Ask the children to watch for the chameleon in the story and to listen to find out why the book might be called "a color of his own."

3. Show the children the live chameleon or anole. Talk about other animals that camouflage themselves. Discuss the word camouflage and what it means.

4. Read Who's Hiding Here? Point out the patterns on the animals and how that helps them hide.

5. Show the children the preserved walking stick. Ask the children how and where it can hide. Next, show the children the preserved praying mantis. Ask the children why they think it is brown and where it can best hide.

6. Do a creepy crawlie fingerplay (repeat the opening concept fingerplay or select another creepy crawlie fingerplay) to resettle the group and prepare to disperse to centers. Once attention is regained, explain the center options available for that day. After you have explained the centers, ask the children to choose where they would like to go. As they choose, send them on their way. Allow the children to freely play and choose another center as they finish each task. Be sure to float from center to center and interact with the children as they play to reinforce the concepts for the day. Play music from the record Insects, Bugs, and Squiggly Things while children are in the centers. The center options today are:

A. Provide a snake pattern and pattern blocks and let the children make a colorful pattern on the snake's back. Ask the children what colors they are using. Be sure and point out any patterns that are being created. Allow 2-3 children at this center.

B. Provide fact and fiction books on reptiles and amphibians. See if the children can find a chameleon. See what other reptiles and amphibians the children can name. Allow 3-4 children at this center.

C. Provide the live animals in this center and let the children observe. Supply magnifying glasses so that the children can examine the animals closely. Ask them to look for things that are alike or different about the animals. Also, have them count the number of legs that each animal has. Have them identify which animal is the biggest and which is the smallest. Allow 3-4 children at this center.

D. Provide materials so that the children can make a simple chameleon flip puppet on a craft stick. Duplicate one pattern sheet for each child. The chameleon should be colored by the children so one is brown and the other is green. Cut out and glue each one on a separate paper plate. Glue the plates back to back on a tongue depressor. While the children are making these puppets ask them to think of places that the chameleon can be camouflaged while it is brown, and other places it can be camouflaged while it is green. Allow 2-3 children at this center.

E. Provide amphibian and reptile puzzles. Ask children to tell the difference between a reptile and an amphibian. Point out the different characteristics of each after the children have pointed out the characteristics that they can identify. Allow 3-4 children at this center.

F. Provide key favorite centers from the past kits for review. Remind the children of the concepts that were introduced for each. Allow 3-4 children at this center.

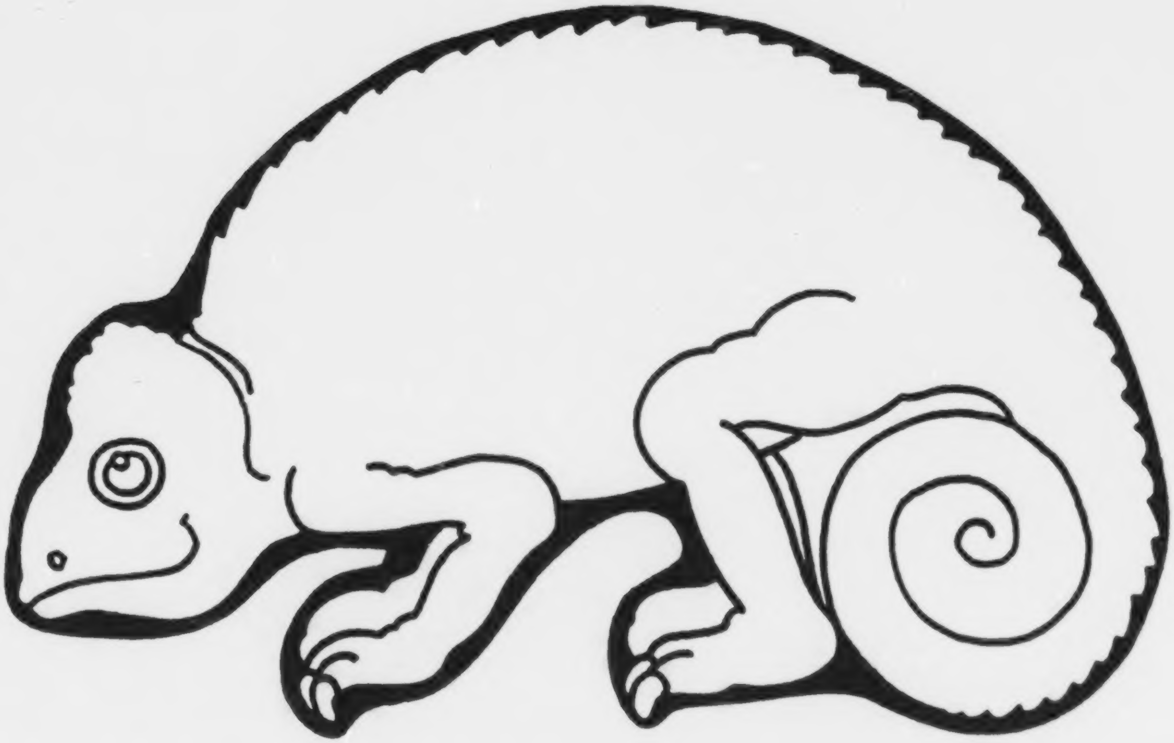
7. Two minutes before you are ready for the children to clean up turn out the lights and make an announcement to warn them to begin finishing up whatever they are working on. After two minutes, turn out lights again and ask the children to clean up. Call children back to the group circle with a song. Allow each child to share one thing they learned or played with during center time. Review by singing The Chameleon Song to the tune of "Did You Ever See A Lassie?" (see Songs and Fingerplay section) as children turn their flip puppets at appropriate places in the song. Read the big book, Animals in Hiding. Ask the children to watch carefully to see if they can spot the animals.

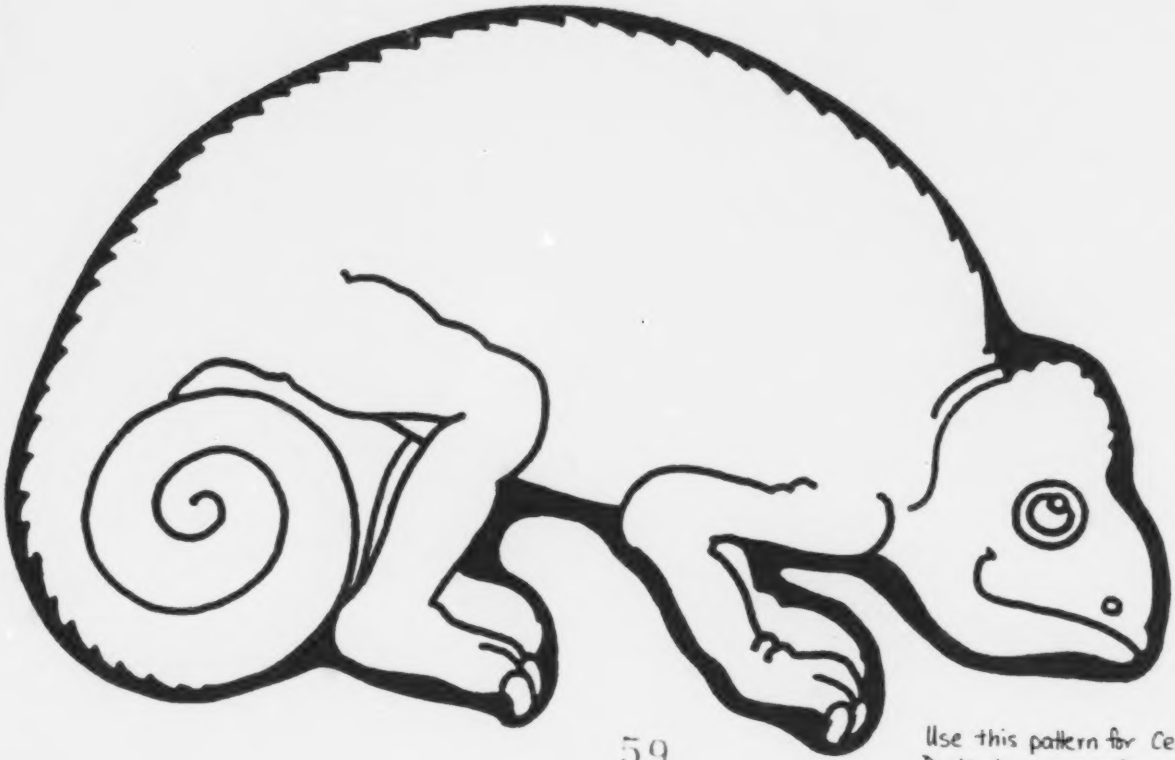
8. Close by looking once again at the mantis and the puppets. Ask the children why animals need to hide. What is that word? What happens to children when they go out at night? Talk about how we are camouflaged at night. Ask children if it would be safe to be outside at night and be camouflaged. What can we do so we are not camouflaged at night? Talk about the importance of wearing light colored clothing and flashlights at night to help people to see us better.

RESOURCE KIT:

1. Use the patterns to make colored chameleons to sort onto a plate the same color.

2. Use the patterns to make patterned snakes and provide pattern blocks to make designs on the snakes back.



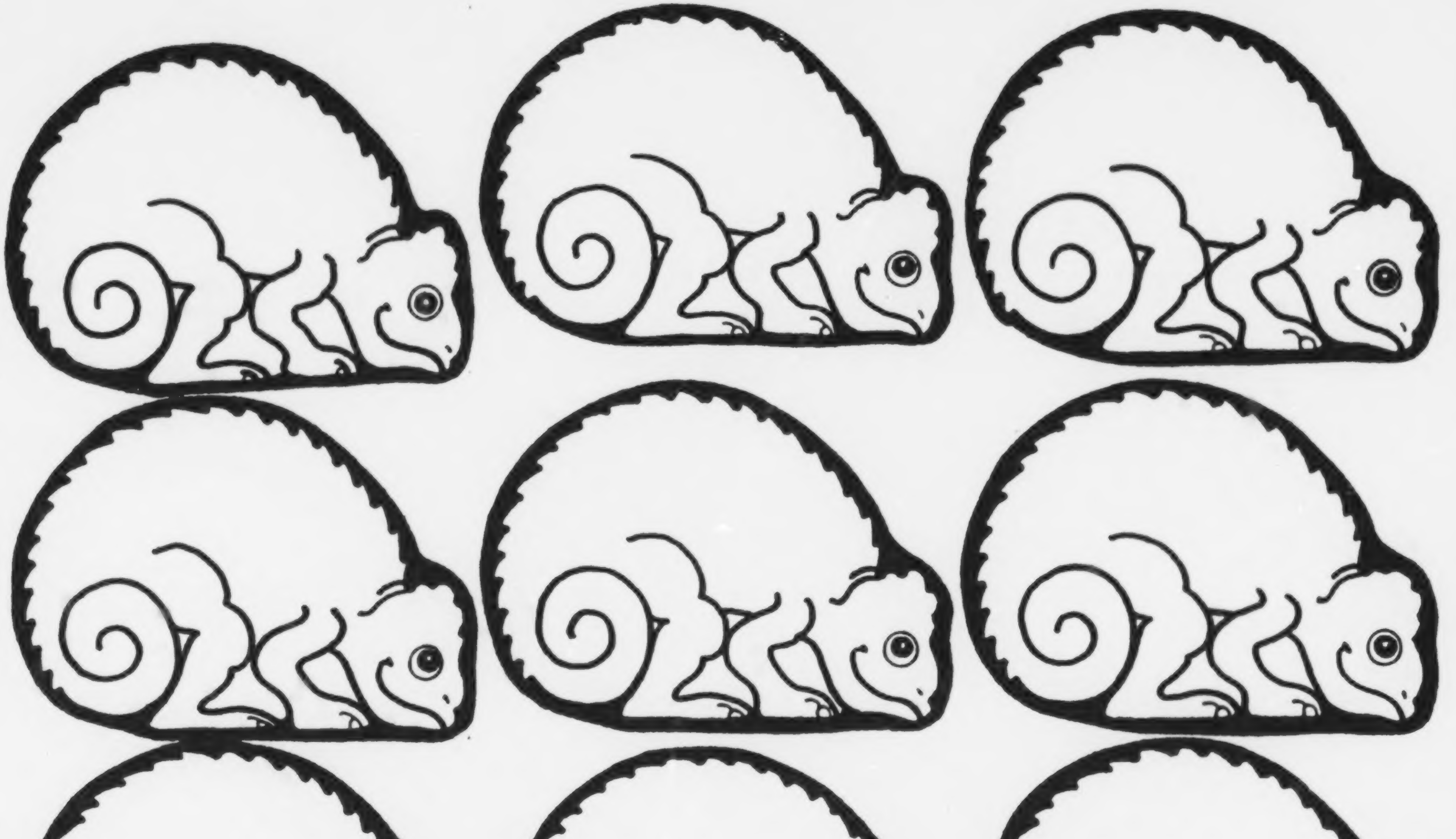


Use this pattern for Center D.
Duplicate one copy for each child.

3. Use the patterns to make an animal camouflage lotto game.

4. Use the patterns to make a game to match animals to the hidden animals in a picture of a field, sea, and forest.

5. Use the patterns to make an art project: cut out paper in a chameleon shape and paste on tissue paper for a design.



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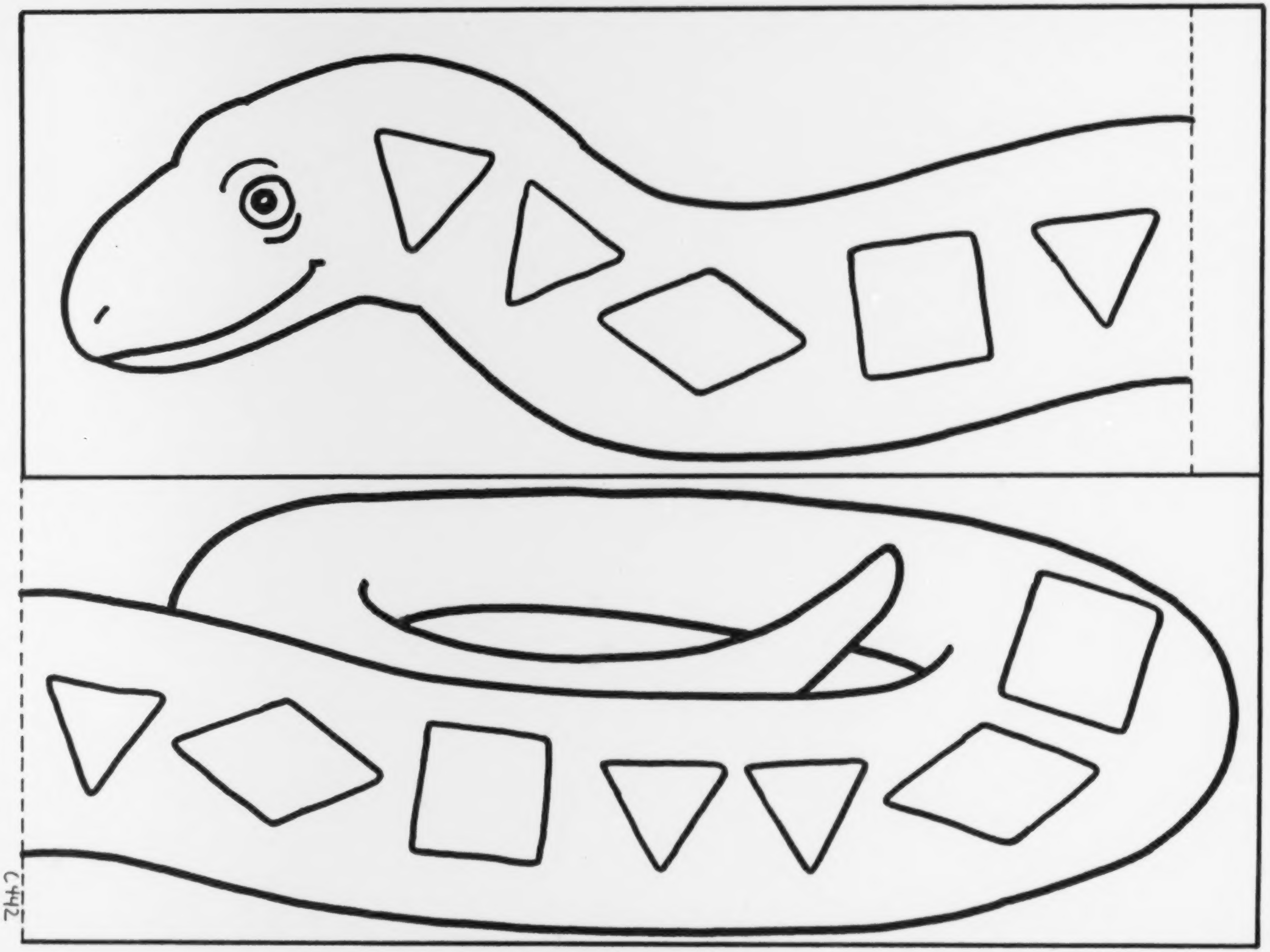

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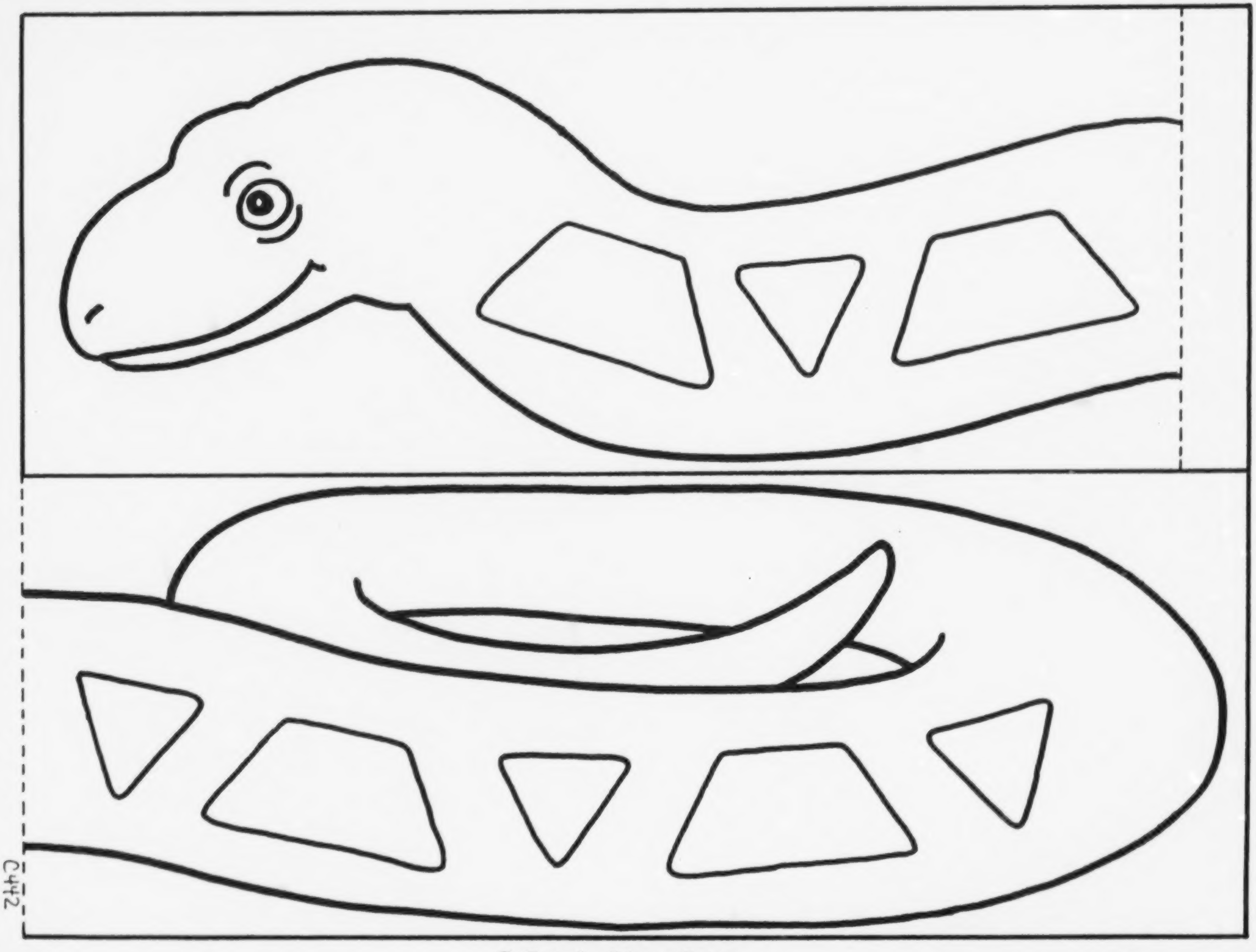

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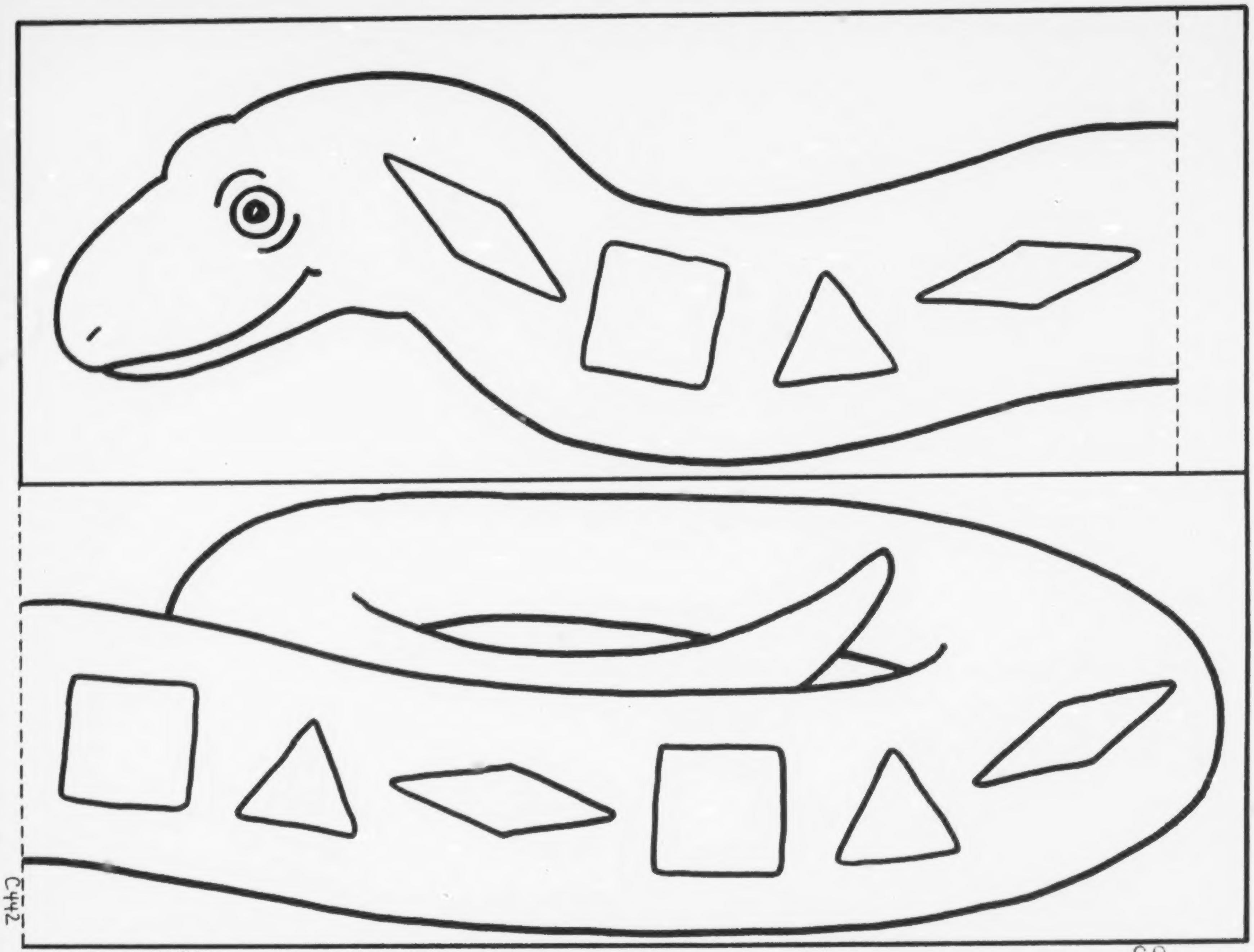

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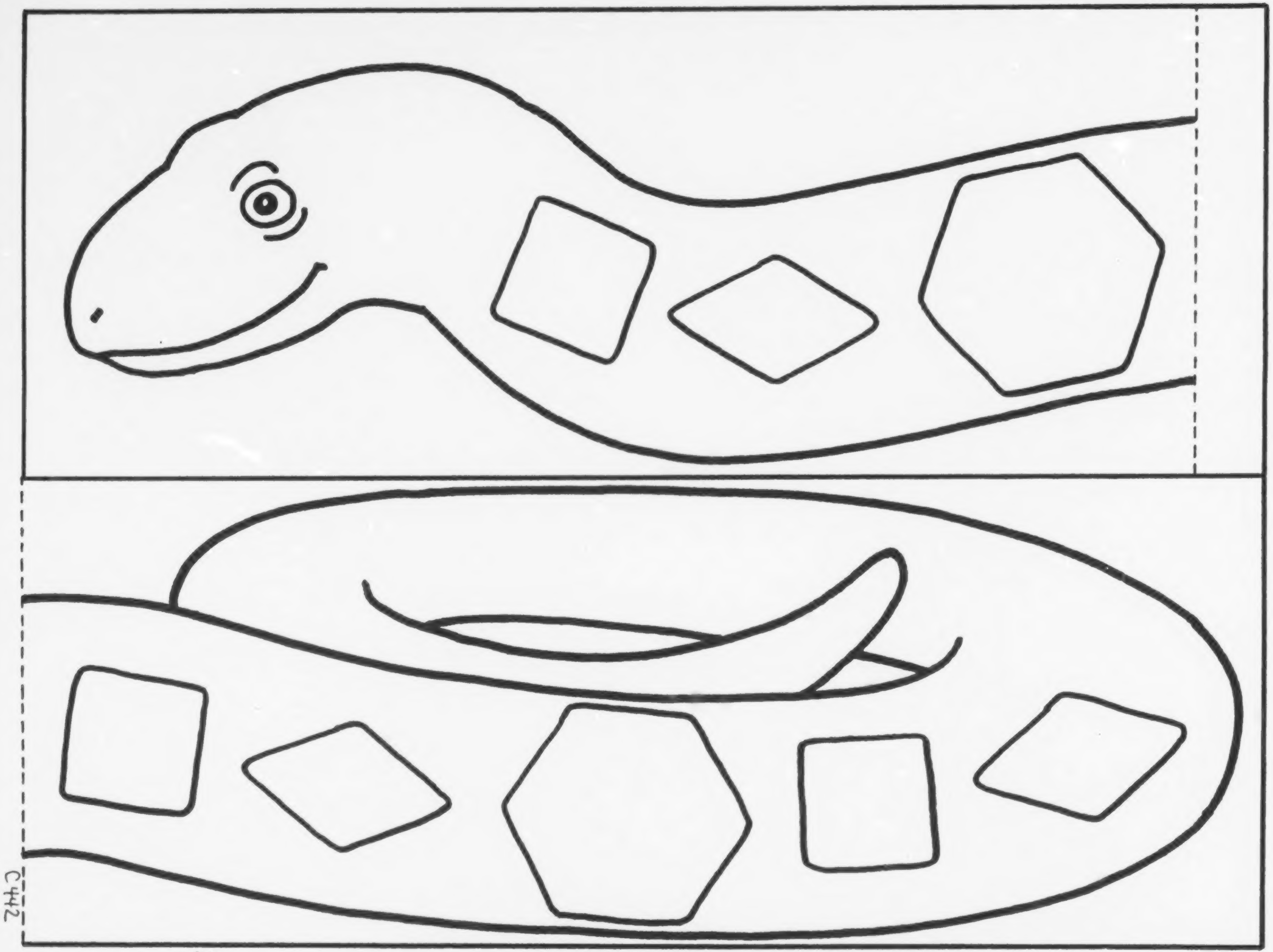

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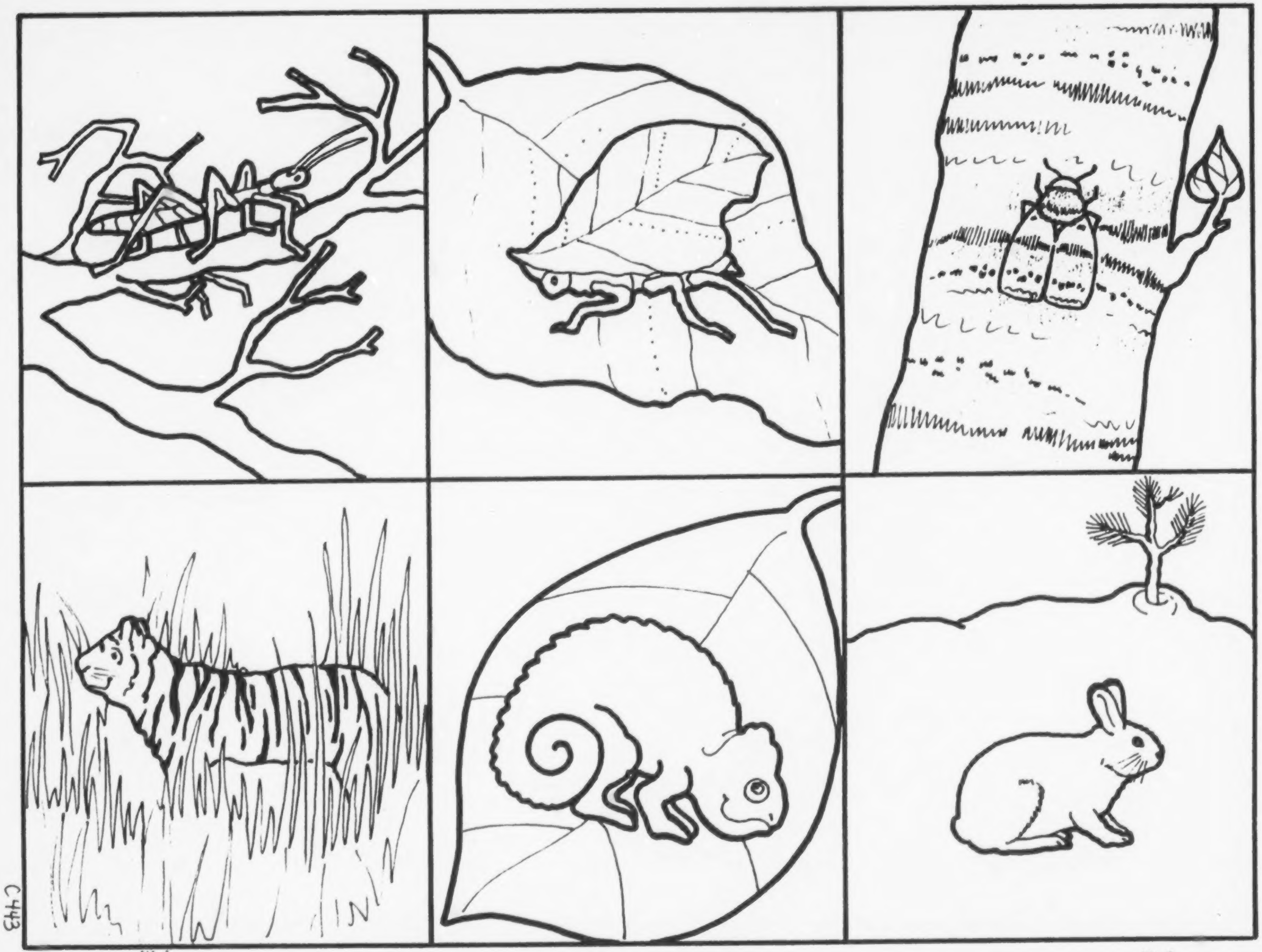

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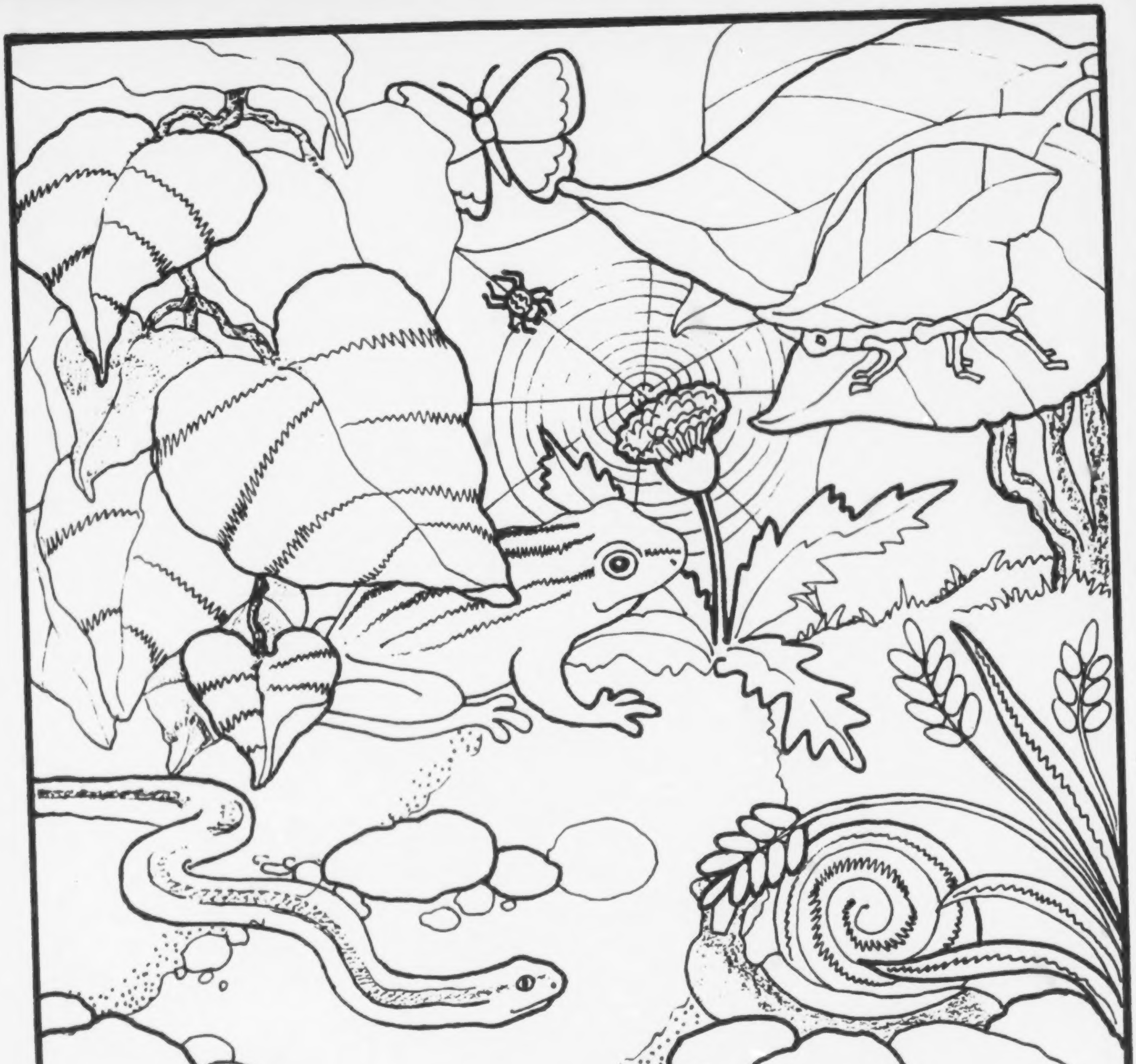
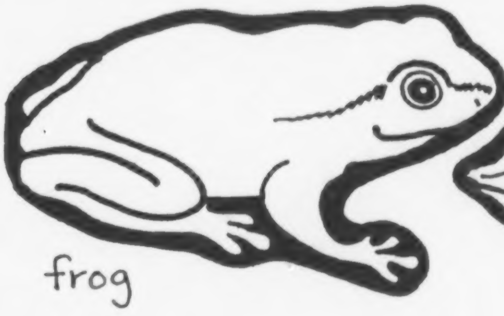
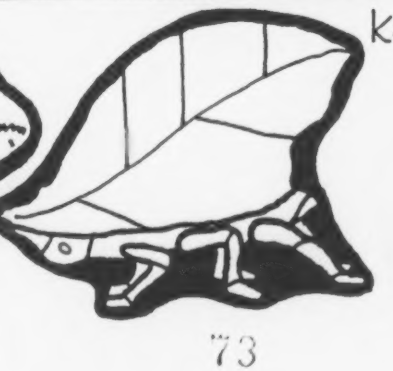
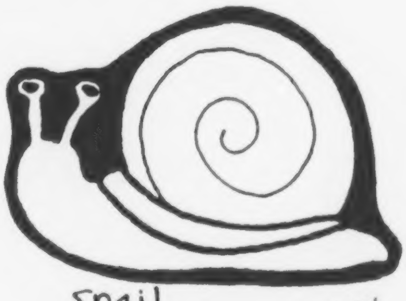




frog

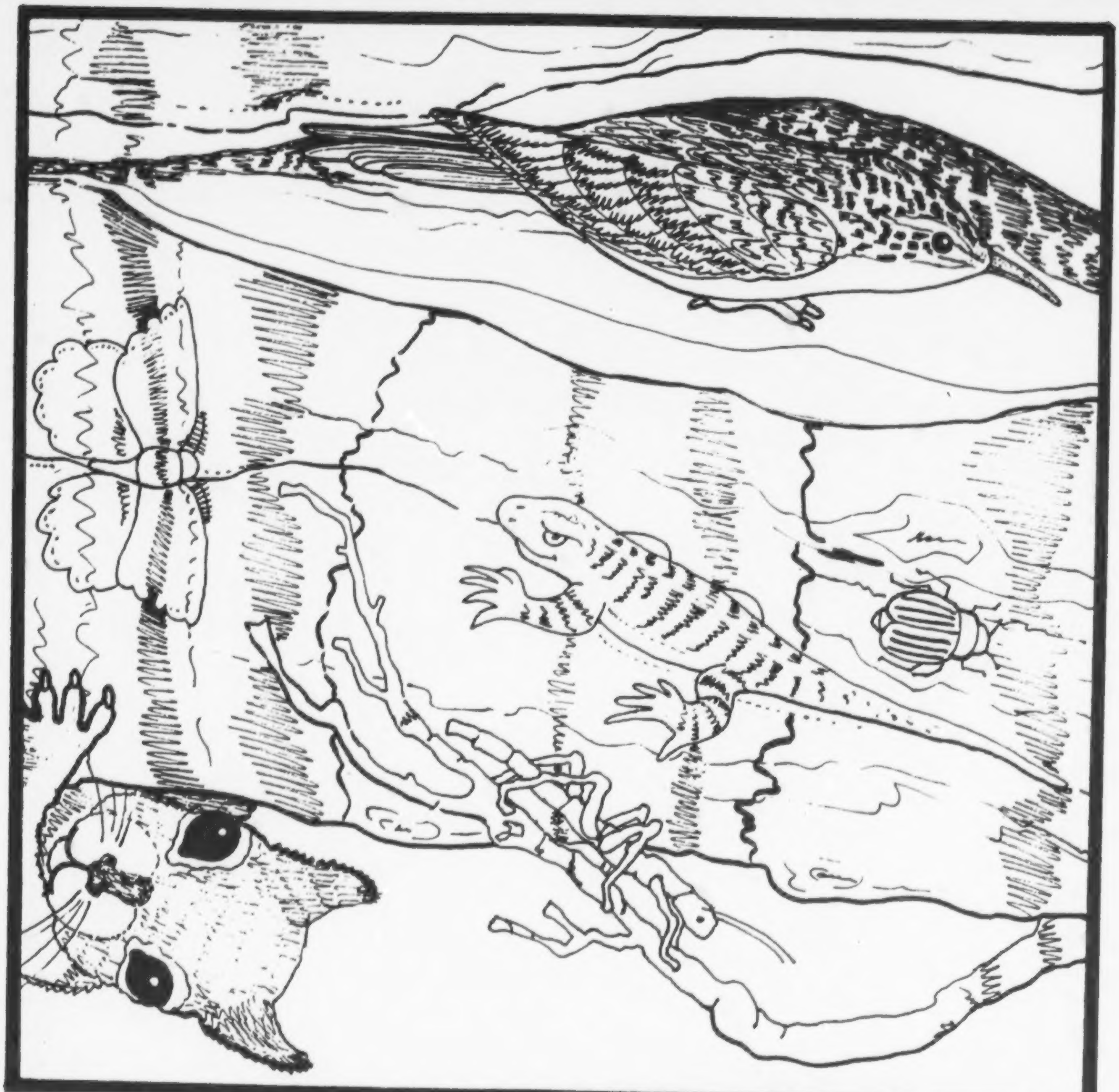
katydid

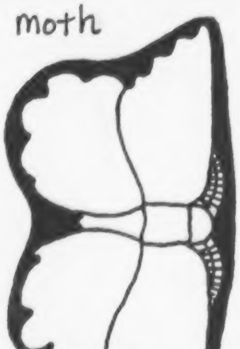


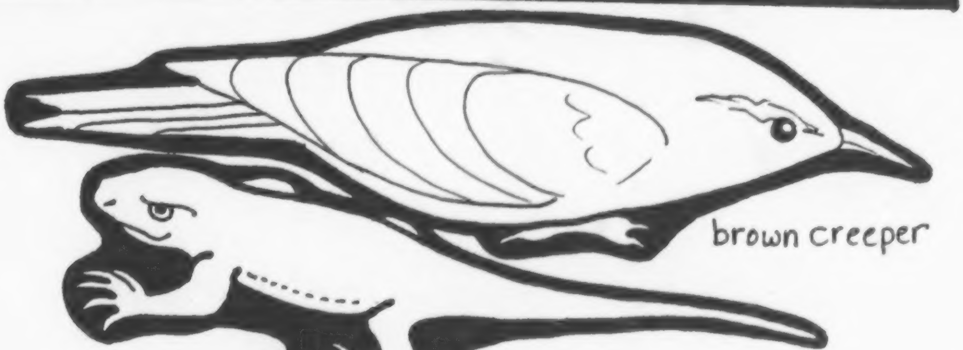


snail

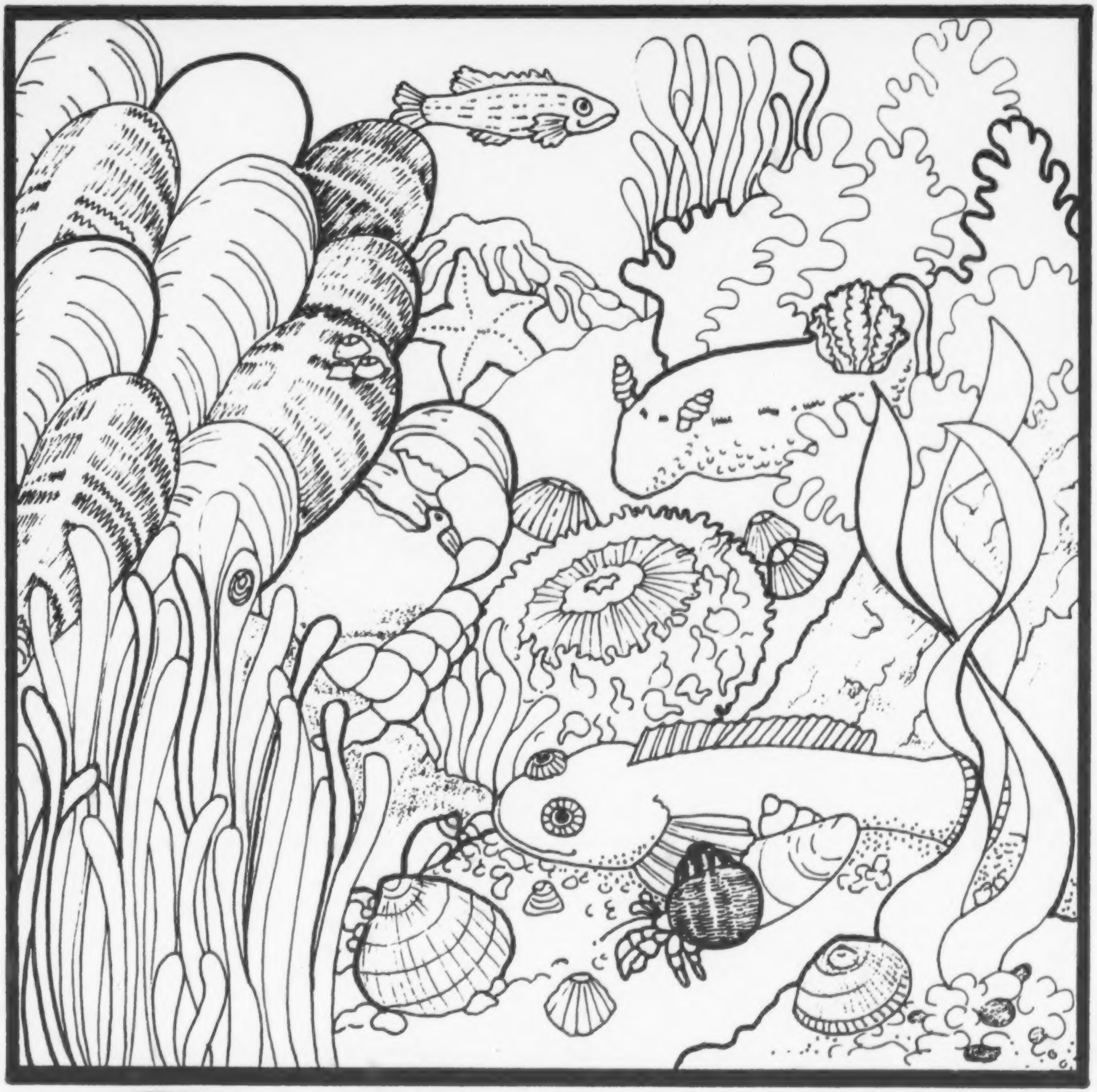
C444

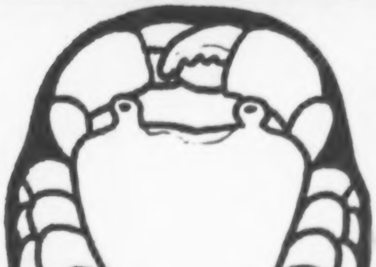





brown creeper
lizard

C444





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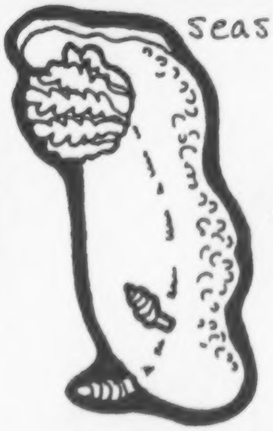

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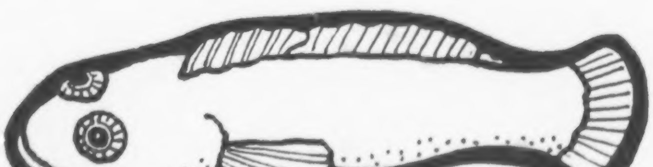


sculpin

C444

# Creepy Crawlies

## Teacher Resource Activities

## Four-Year-Olds

# CREEPY CRAWLIES
# RESOURCE KIT
### Four-Year-Olds

**Session 1: There are many kinds of insects.**

1. Put real bugs in the bug boxes. Let children observe and sort types of bugs. Help them count the number of legs.

2. Use two copies of the pattern numbered C412. Leave one sheet of different insects as a lotto board. Cut the other sheet of assorted insects into cards and let children match them to those on the lotto board. For older children, both sheets of cards can be cut apart and matched.

3. Use one copy of each of the patterns numbered C413. Cut the large insect patterns into pieces for puzzles. They can be cut into four straight strips or into shapes to match.

4. Use one copy of each of the patterns numbered C414. Cut the insect cards into domino pieces. Encourage children to match the pictures as they would with dominoes.

5. Use the plastic creepy crawlies for children to sort by type: insect, spider, flying, crawling. These can also be used for matching and counting activities.

6. Use one copy of the pattern numbered C416. Leave half of the sheet containing pictures of the insect homes as a lotto board. Cut up the other half with the different types of insects. Let children match these insects to their homes on the lotto board.

7. Use one copy of the insect outline, pattern C417, on acetate. Use one copy of the other pattern numbered C417 on heavy tag. Cut out the acetate sheet of the different insects into cards. Leave the other sheet as a lotto board. Give children the cards containing the outlined shape of the insects and let them match these to the detailed bodies of the insects on the lotto board.

**Session 2: Spiders are not insects.**

1. Use one copy of each,of the patterns numbered C421. Cut the large pictures of spiders into pieces so that the children can put them together as puzzles. These pieces can be cut into four or more strips.

2. Use two copies of the pattern numbered C422. Leave one of the sheets with spiders as a lotto game board. Cut up the other sheet of spiders into cards and let children match these to the spiders on the lotto board.

3. Use one copy of each of the patterns numbered C423. Cut out the body parts of the large tarantula and make flannel board pieces out of them by gluing on Velcro, felt strips, or sandpaper. Encourage children to put the tarantula together. Remind them of the different body parts as they do.

4. Write the numerals 1 - 10 on separate paper plates. For younger children, you can also include the appropriate number of dots to assist in counting. Cut slits around the outside edge of the 10 paper plates. Wrap yarn across each plate by inserting the yarn through each slit. This is your spider web. Use plastic spiders for counting onto each web according to the numeral or number.

5. Use one copy of the pattern numbered C425. Cut out the cards showing the sequence for building a web. Have children put them in order. For younger children, only use three pictures. Increase the number as the skill level increases.

6. Make spider plop prints. Tie plastic spiders onto a string. Dip the spider into paint and then plop it onto paper.

**Session 3: Creepy crawlies change.**

1. Follow the directions provided with the Raise-A-Frog habitat. Encourage children to observe changes in the tadpole. Talk about why the water level must change as the tadpoles develop legs.

2. Cut apart the pictures of the dart frogs on the posters to make a matching game.

3. Use one copy of the pattern numbered 433. Cut out the pictures of the frog metamorphosis. Let children sequence the growth of a frog with these cards. Use only three cards for younger children.

4. Purchase frog shaped notepads that children can use freely in the art center.

5. Use the plastic counting frogs for counting and color sorting activities.

6. Make a feely box. Place bumpy and smooth items inside. Place a set of identical items on the outside of the box. Let children match items they feel on the inside to the items they see on the outside. Talk with children about bumpy and smooth. Remind them that frogs have smooth skin and toads have bumpy.

7. Purchase reptile and amphibian stickers for use at the art center. The stickers can also be used to make matching and sorting games.

**Session 4: Creepy crawlies hide themselves.**

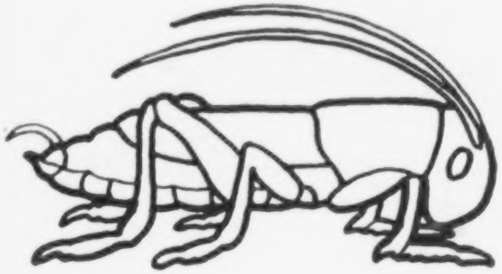
1. Use four copies of the pattern numbered C441, each in a different color. Cut out the different colored chameleons. Let children match them to the same color plate.

2. Use each of the patterns numbered C442. Cut out the snake halves and put them together to make complete snakes. Put out the patterned snakes and the pattern blocks. Let children make designs on the snake with the pattern blocks. Talk to children about how the patterns on snakes help them hide from their enemies. Remind children of the word camouflage.

3. Use two copies of the pattern numbered C443. Leave one sheet whole to be used as a lotto board. Cut apart the second sheet into cards. Let children match the hidden animal cards to the hidden animals on the lotto board.

4. Use one copy of each of the patterns numbered C444. Cut out the individual pictures of the animals at the bottom of each habitat. Let children match these to the sheet containing animals hiding in their habitat.

5. Cut out a piece of construction paper in the shape of a chameleon. Let children tear multicolored tissue paper and glue onto paper.



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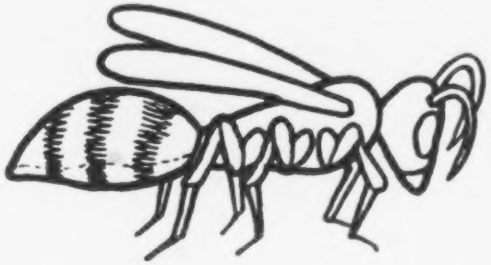

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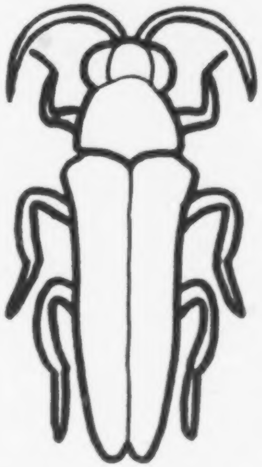

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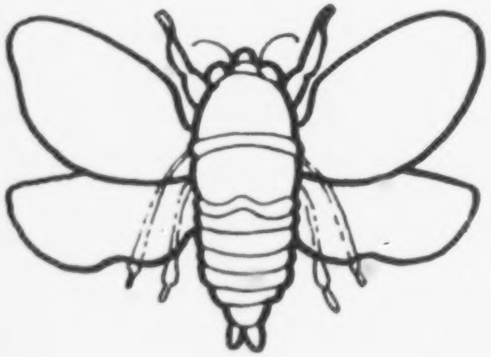

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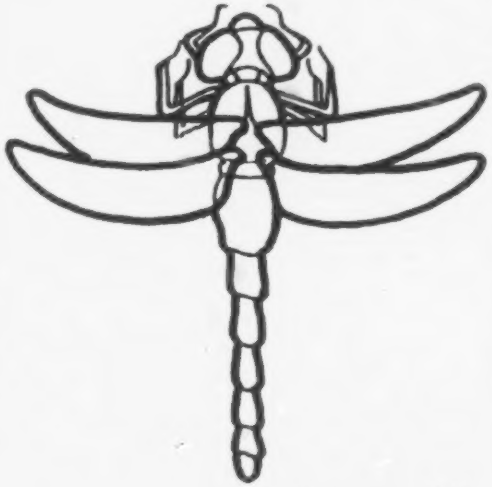

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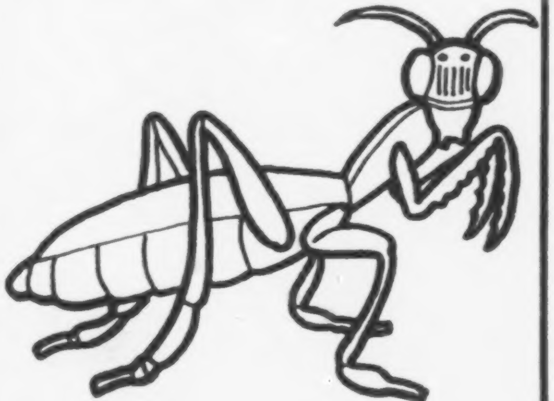
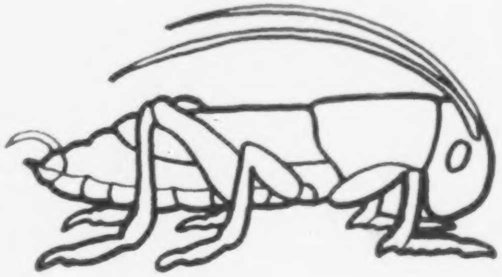


praying mantis

C+12



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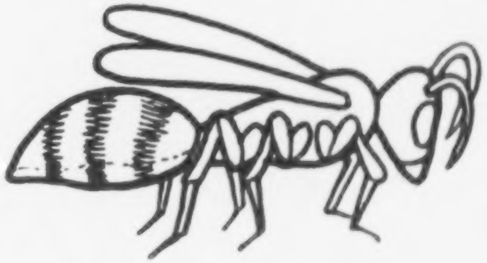

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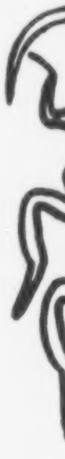

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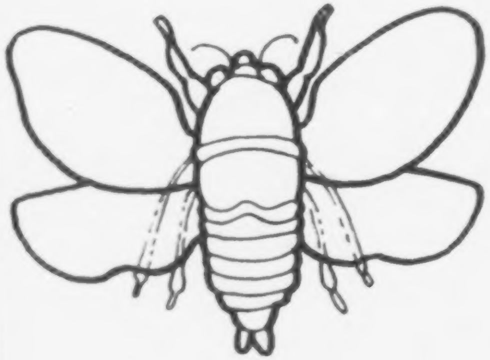

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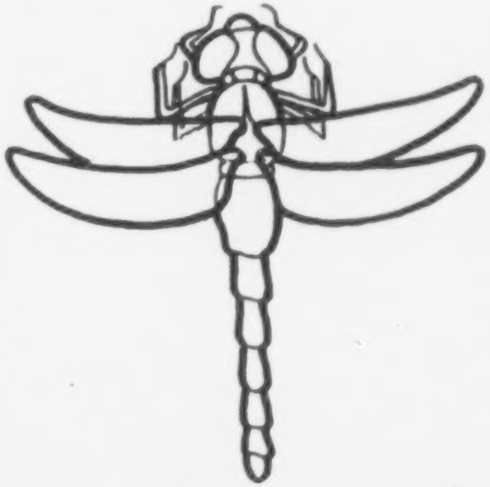

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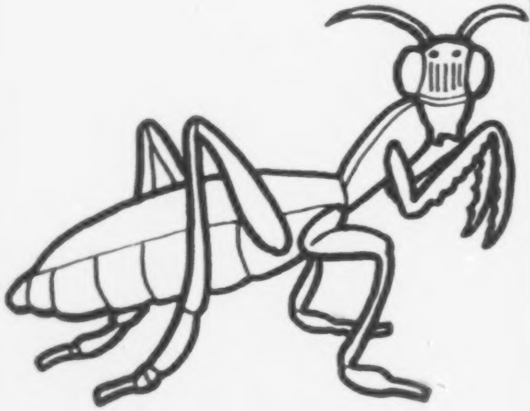

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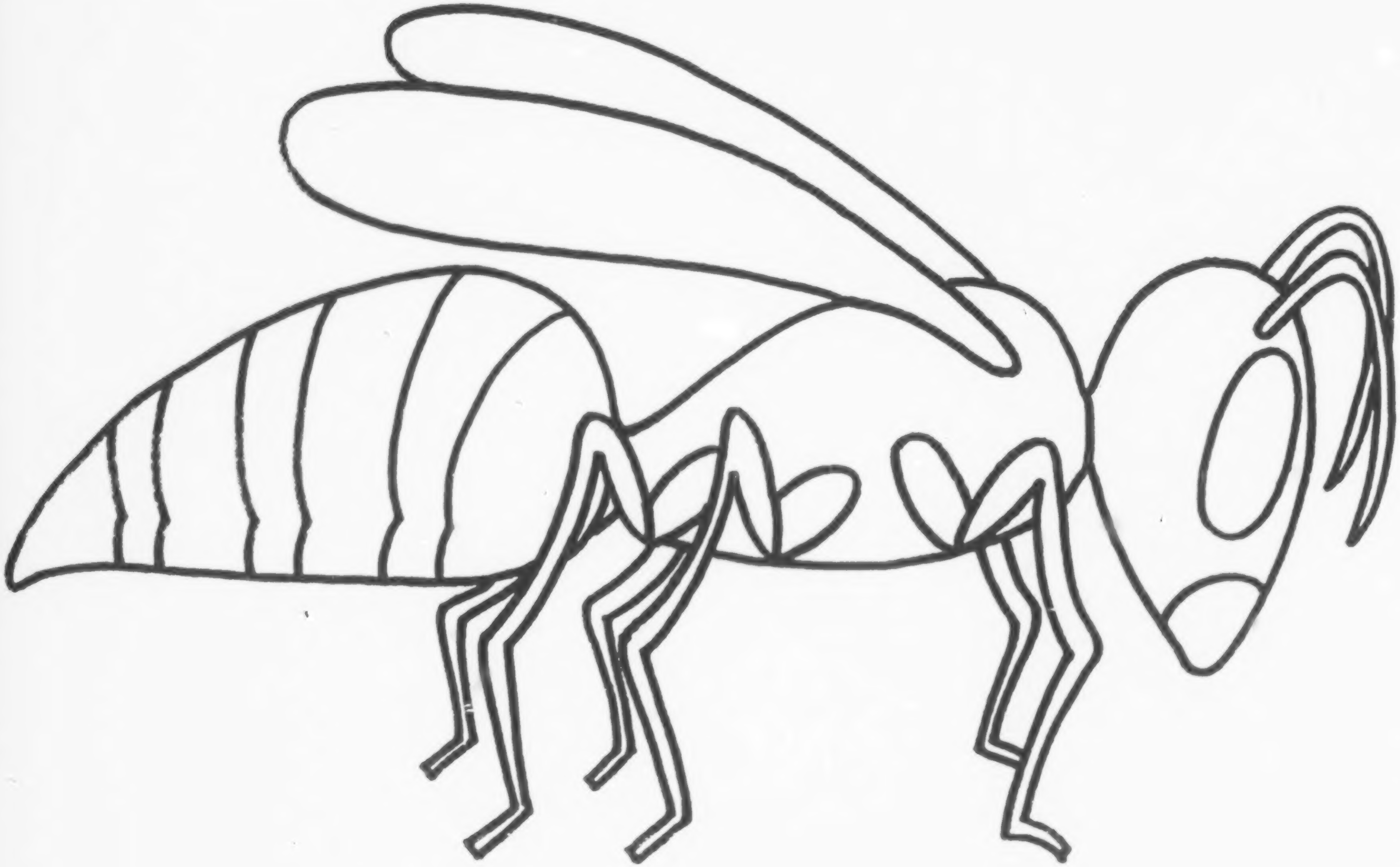

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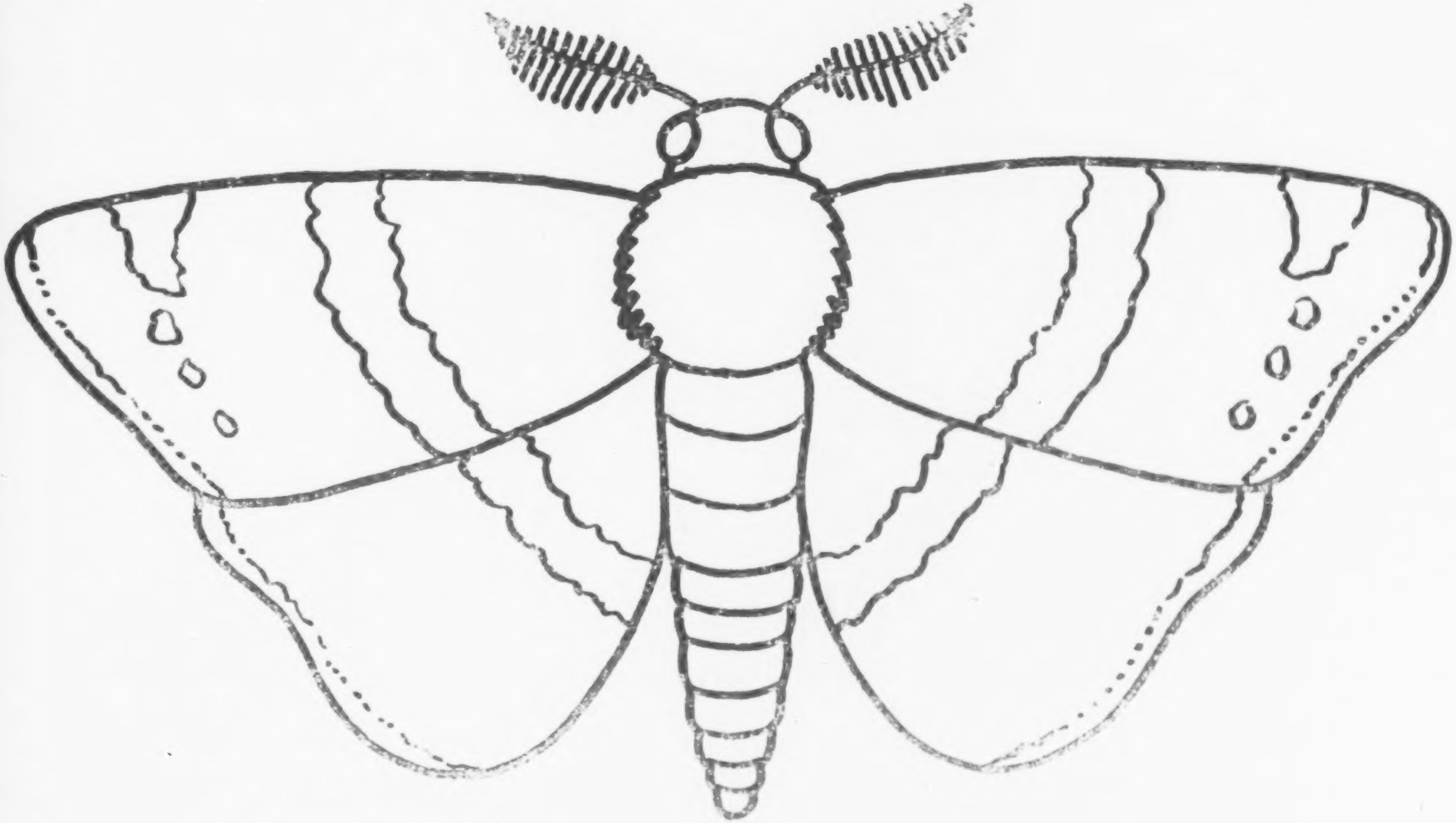

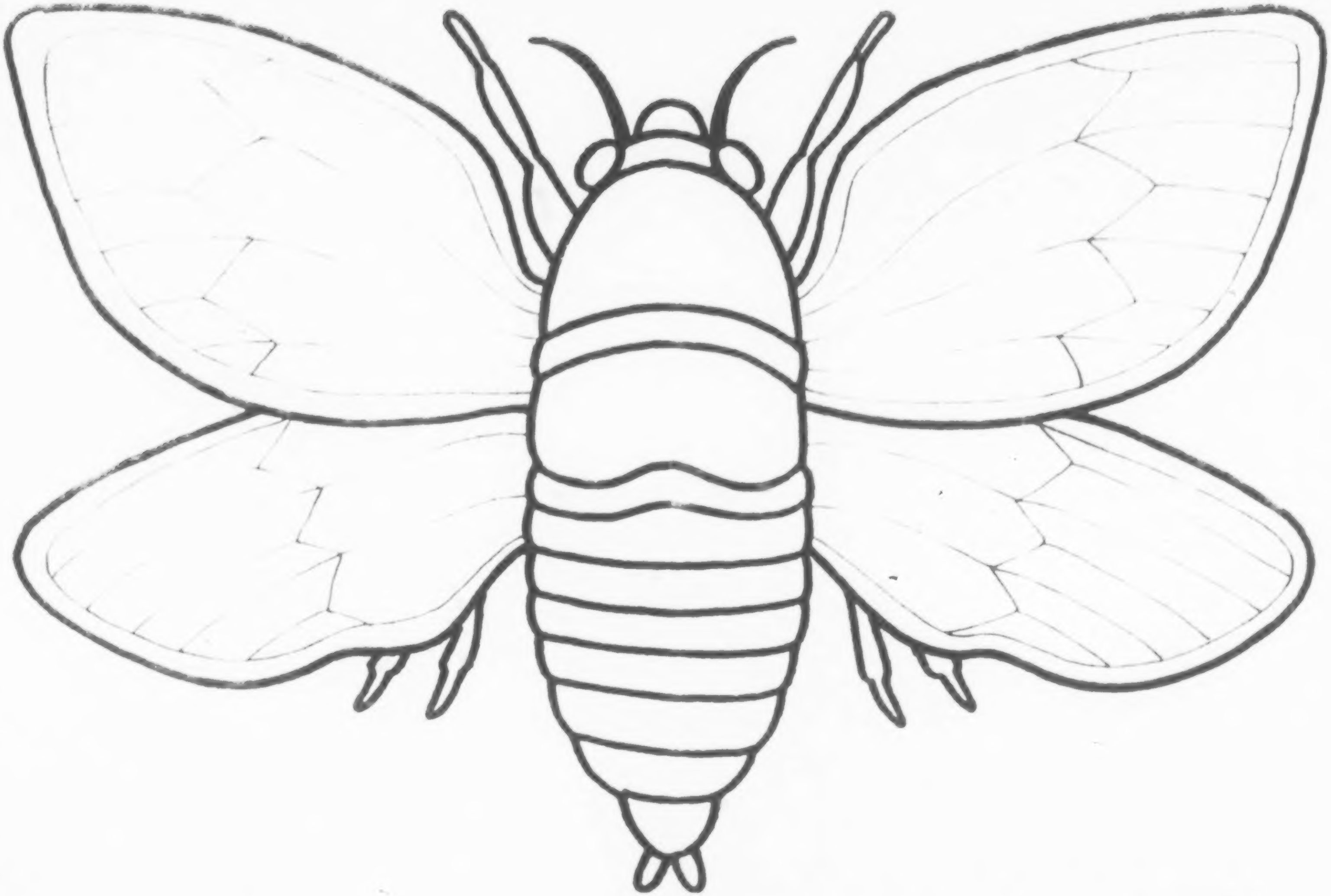

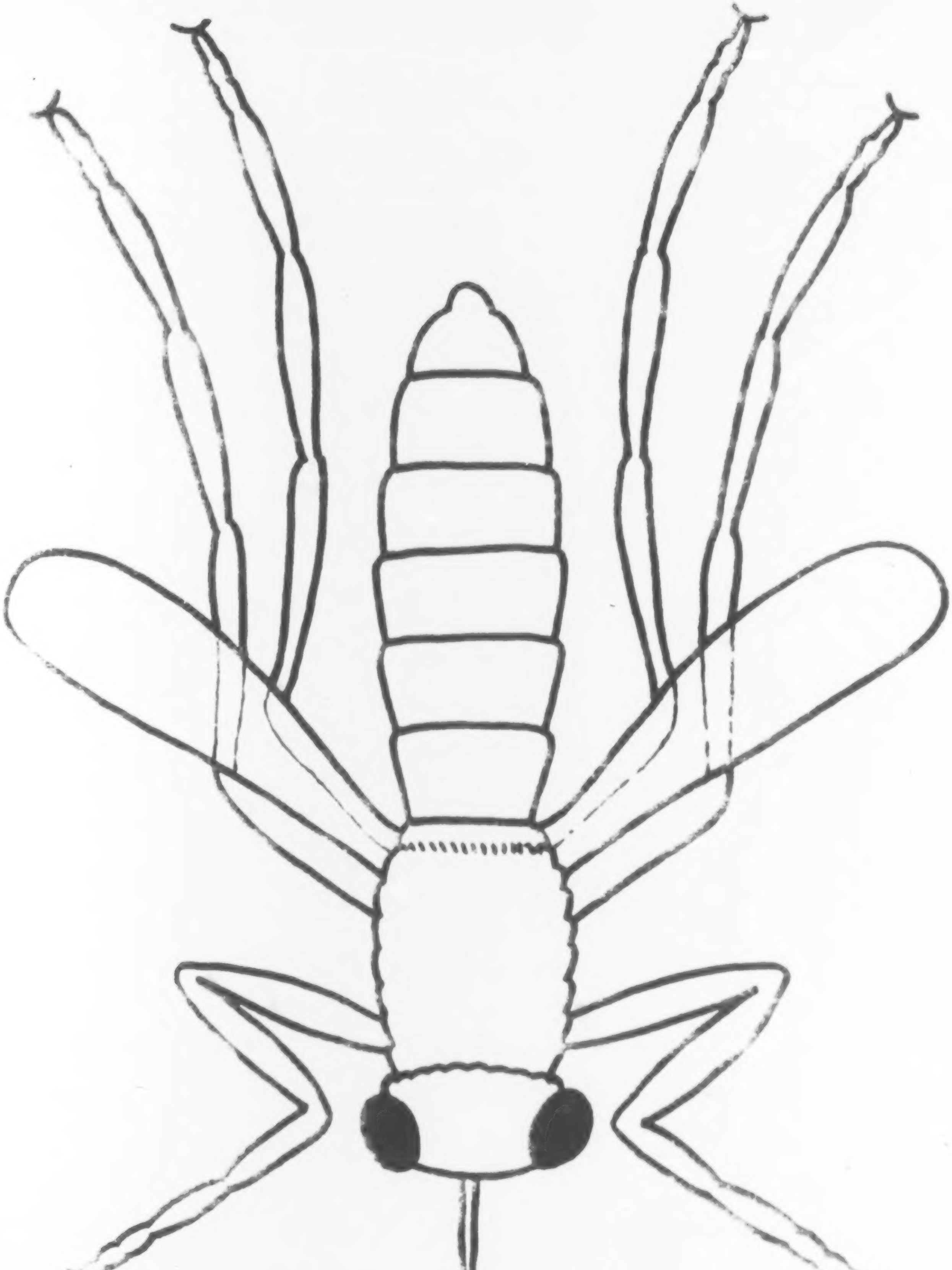

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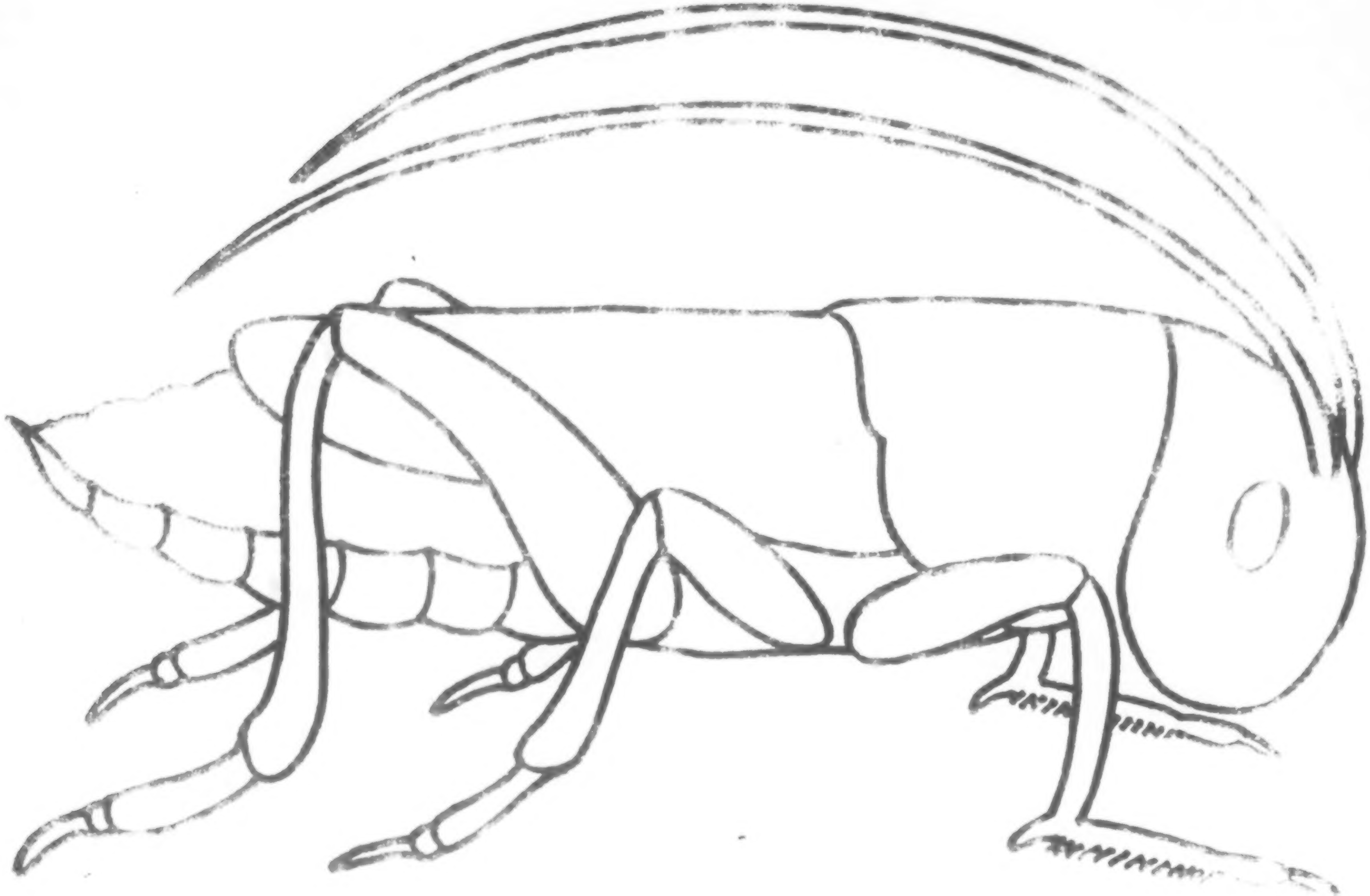

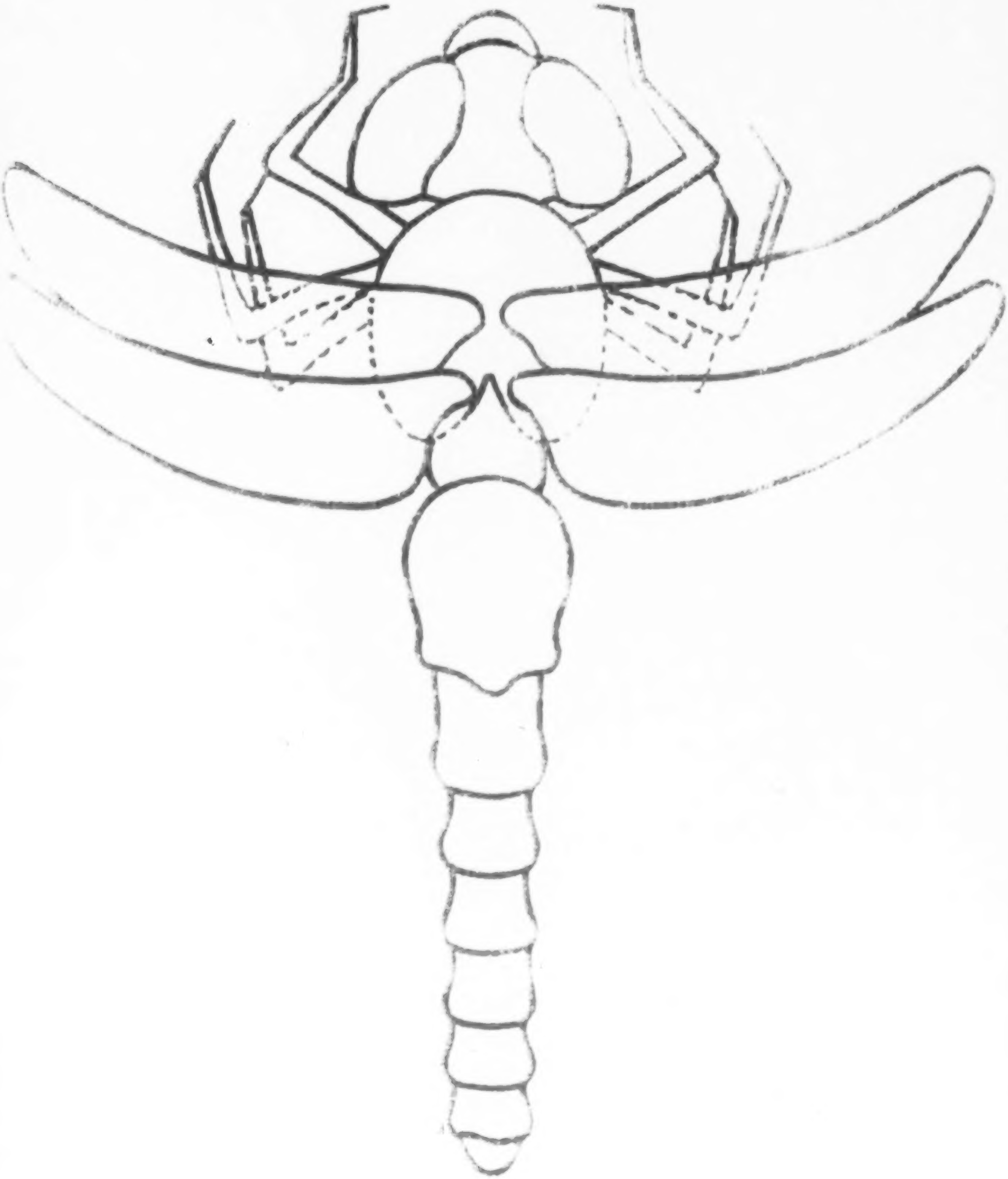

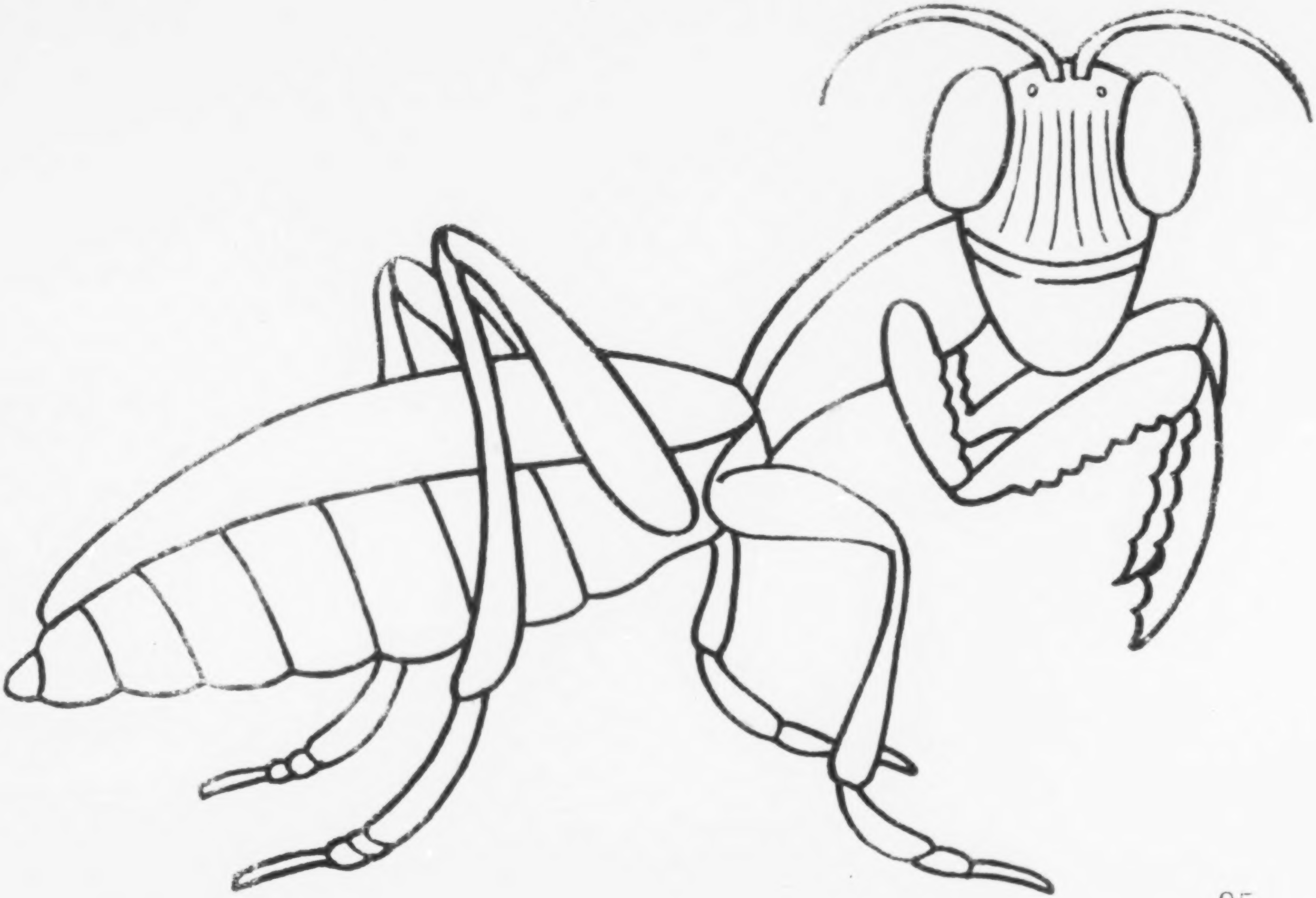

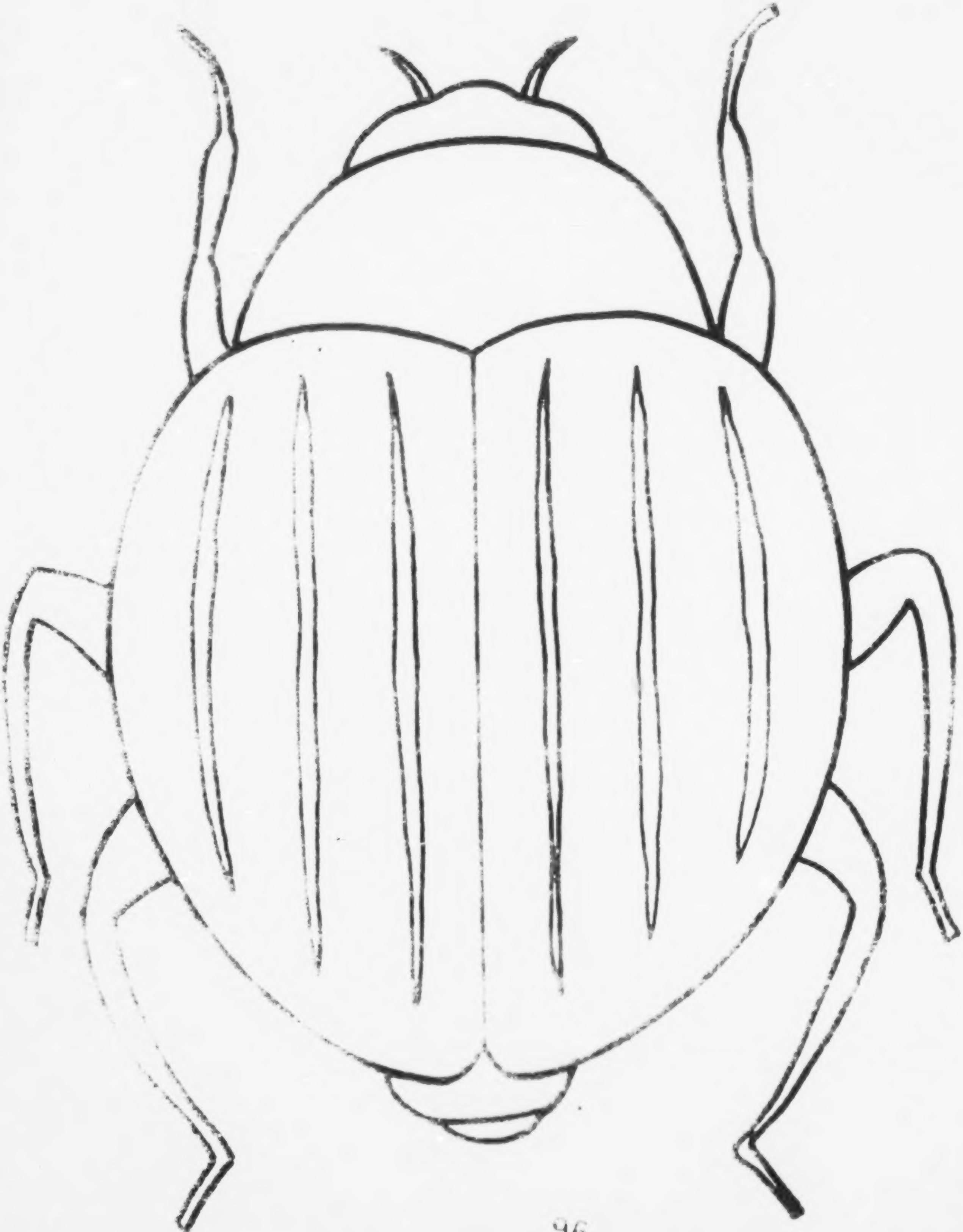

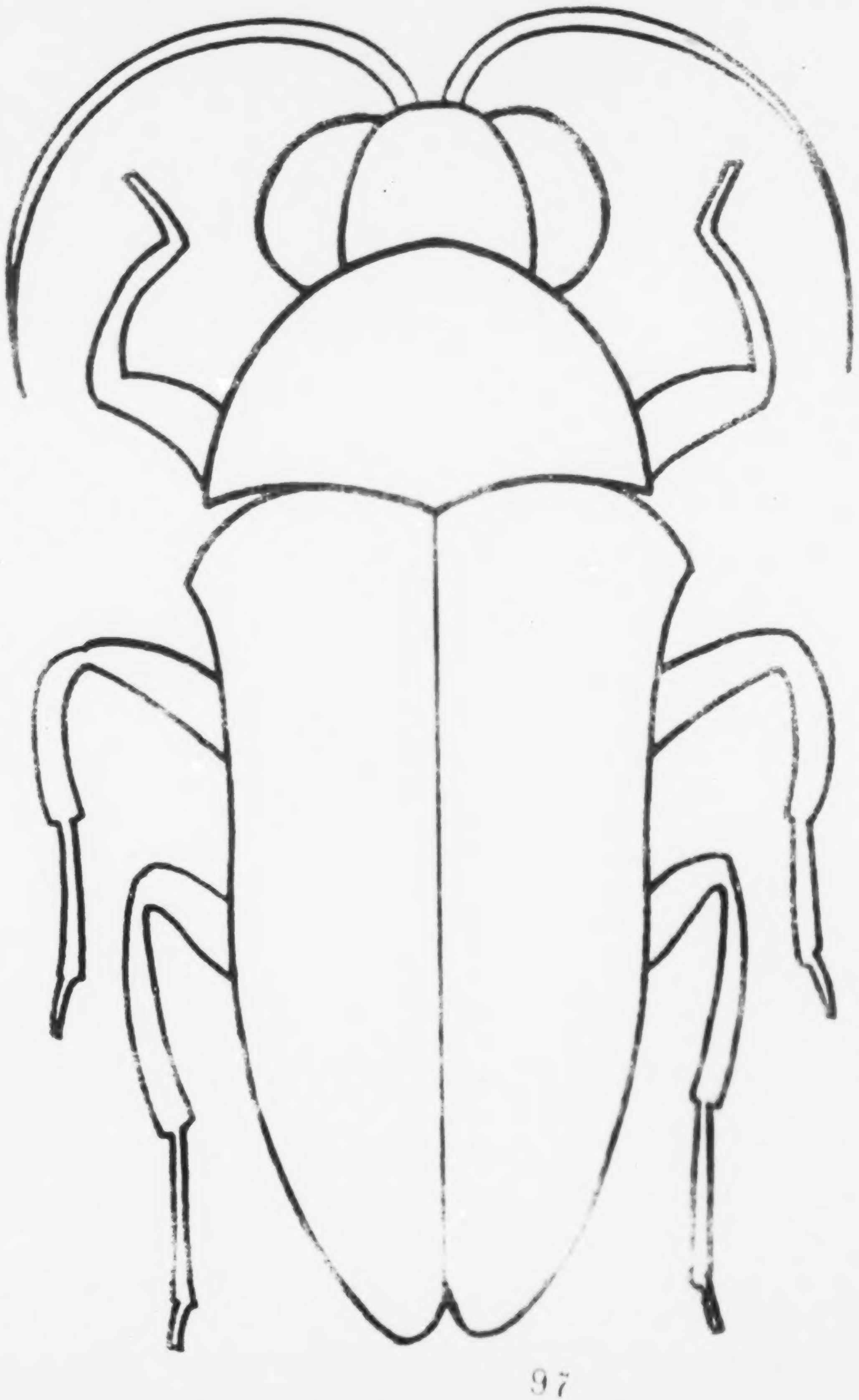

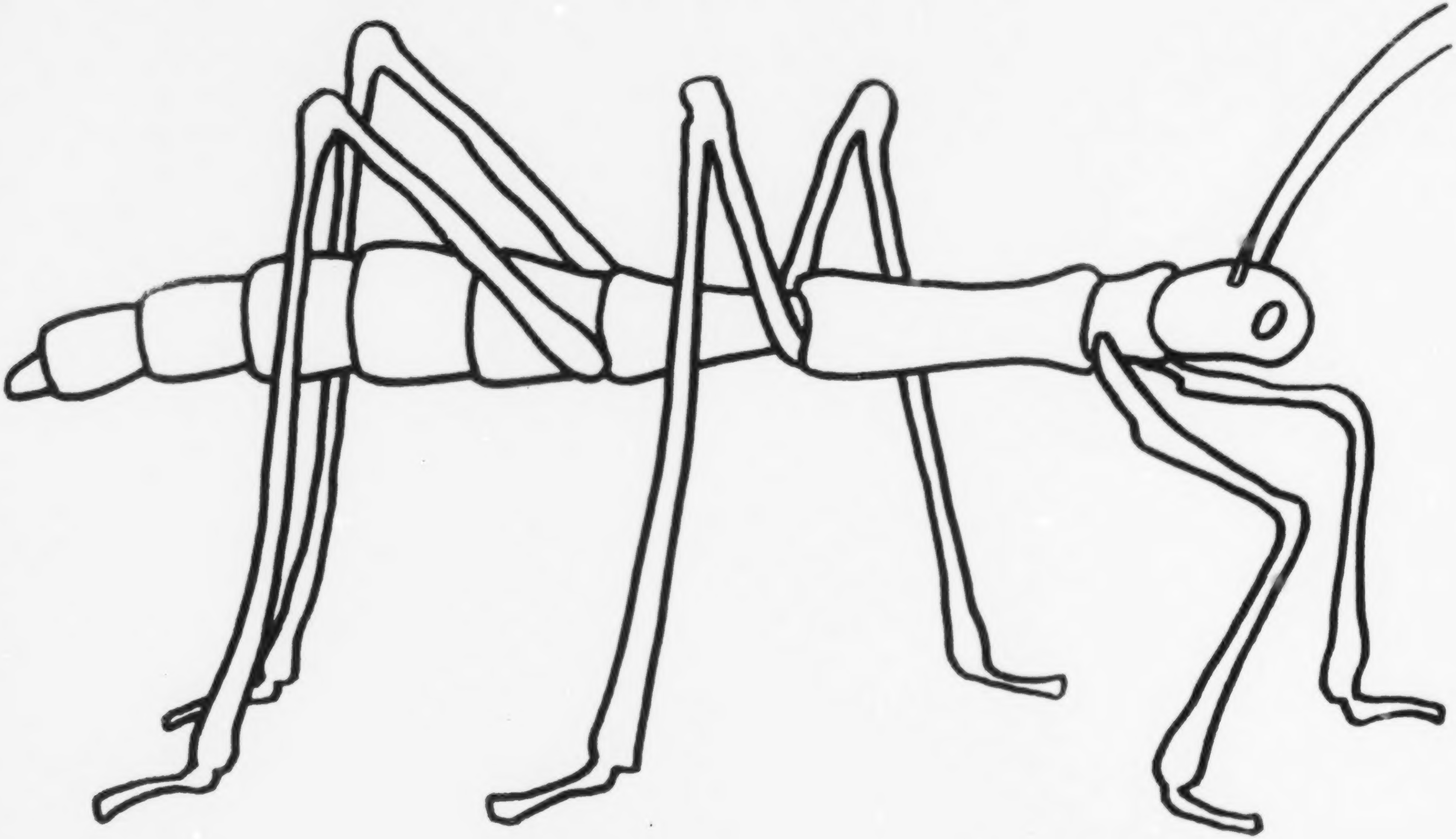

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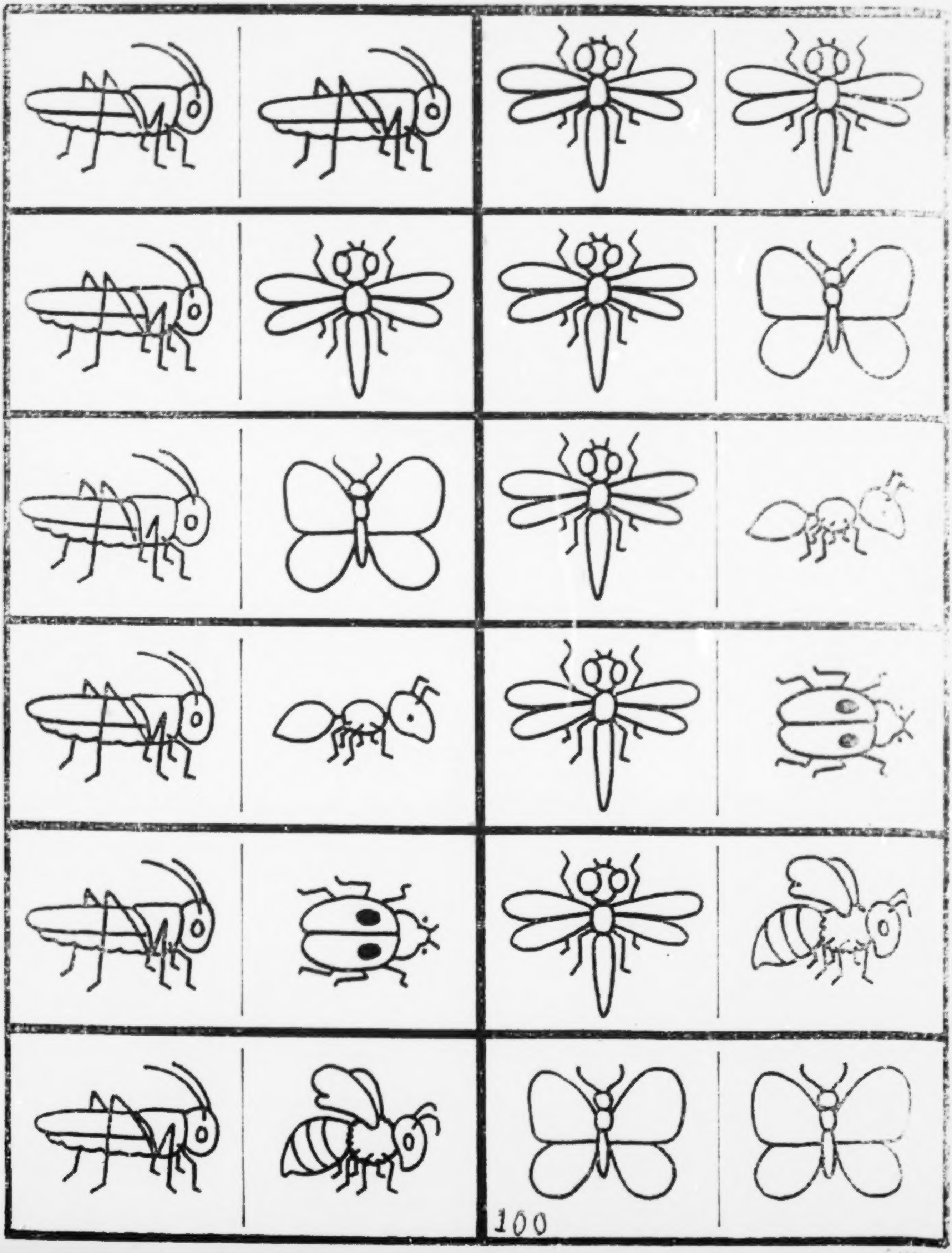

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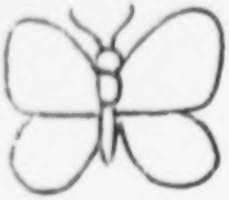
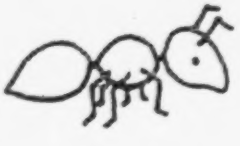
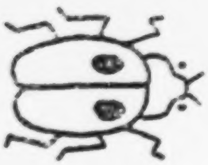
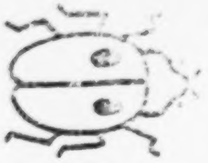
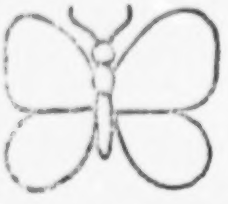
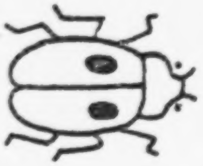
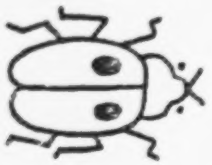
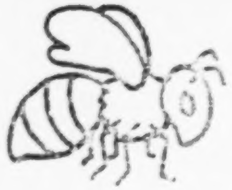
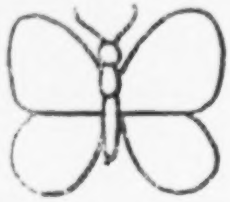
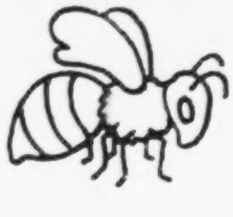
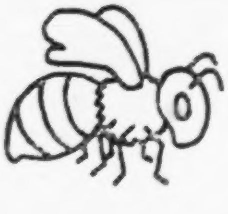
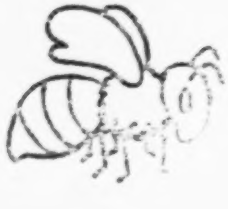
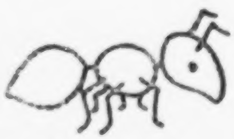
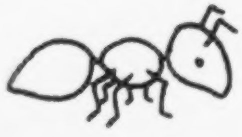
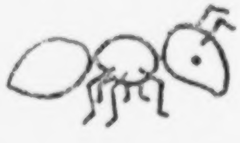
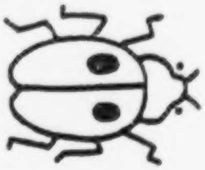
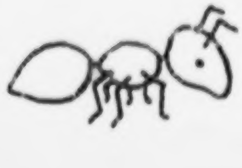
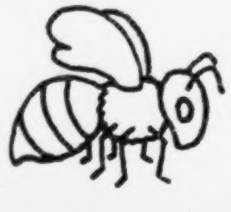
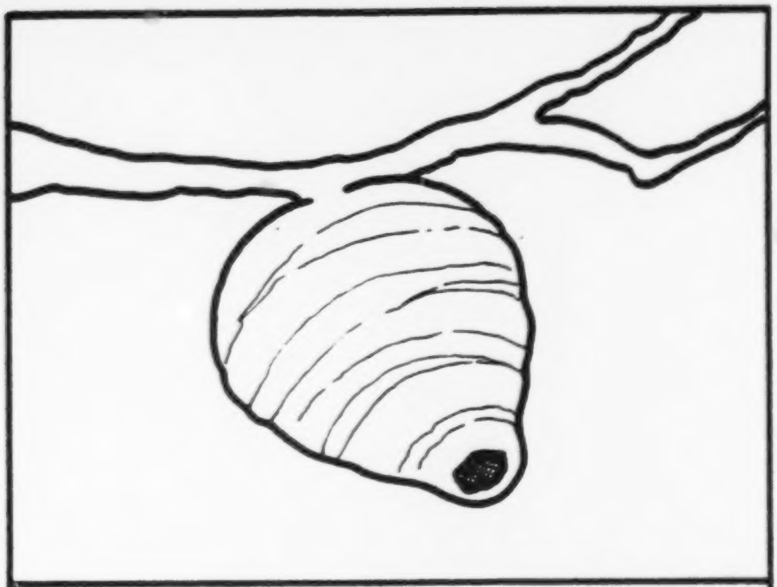
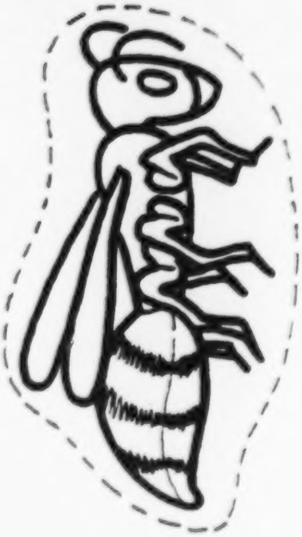
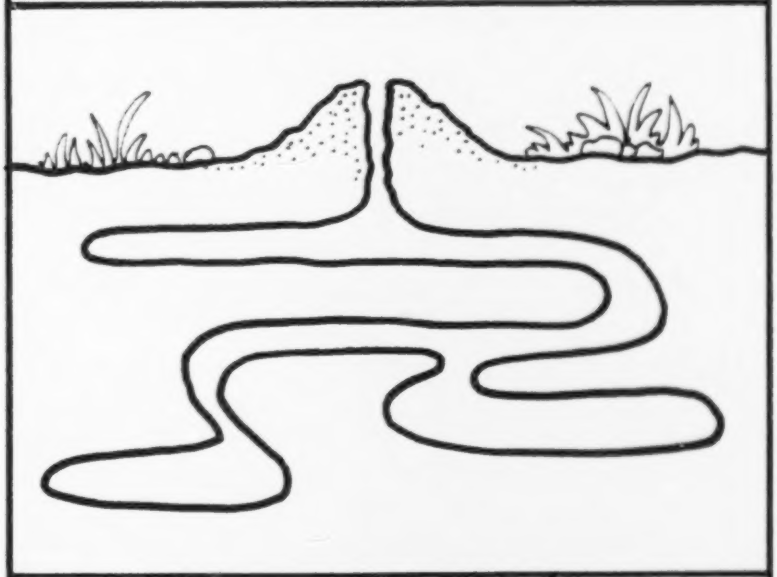
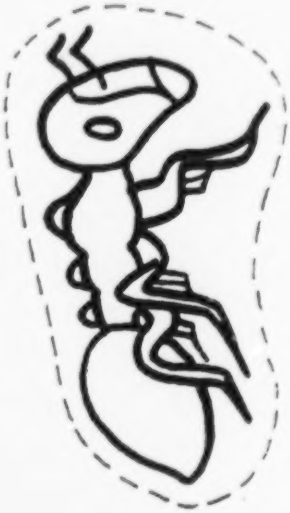
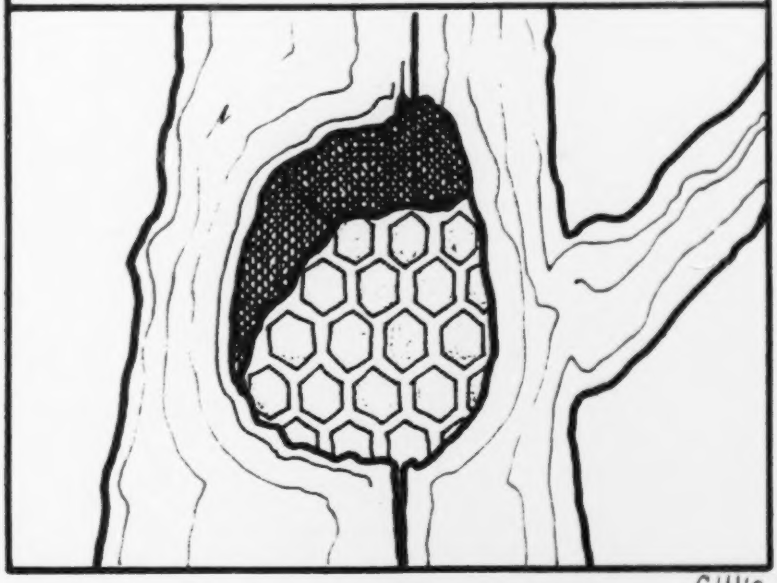
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

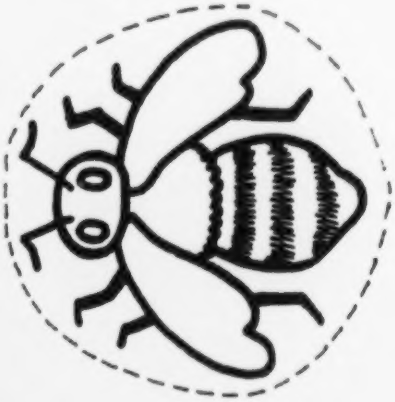












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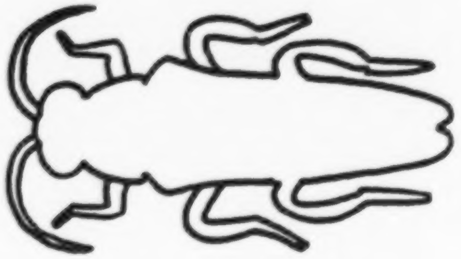

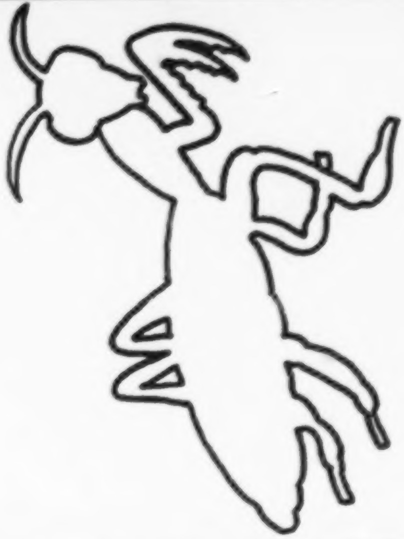

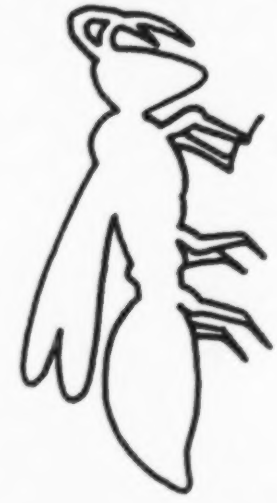

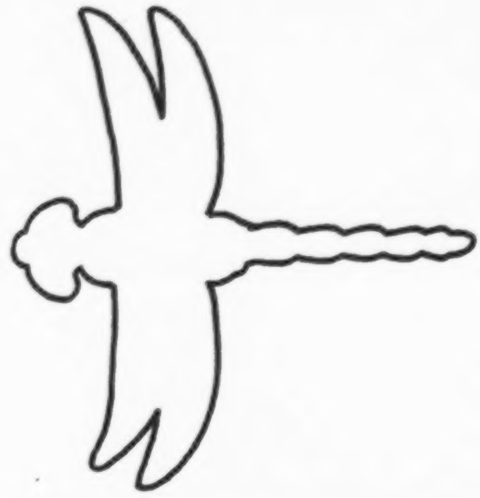

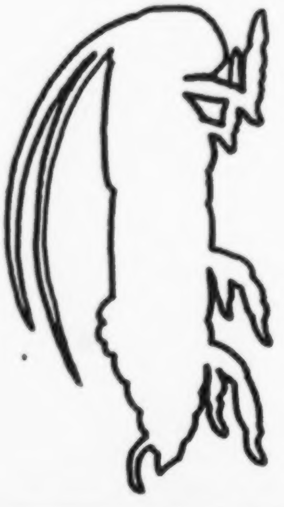

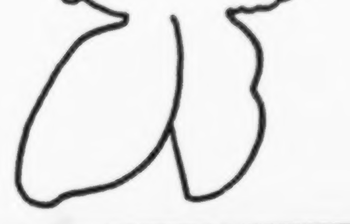

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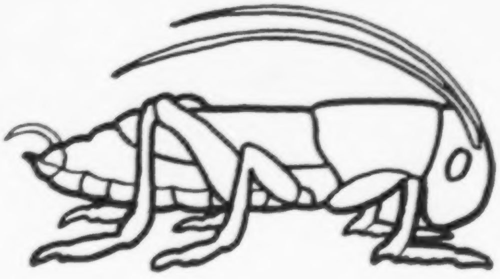

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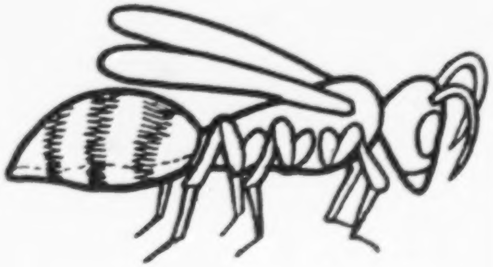

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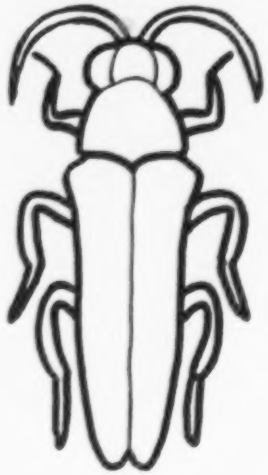

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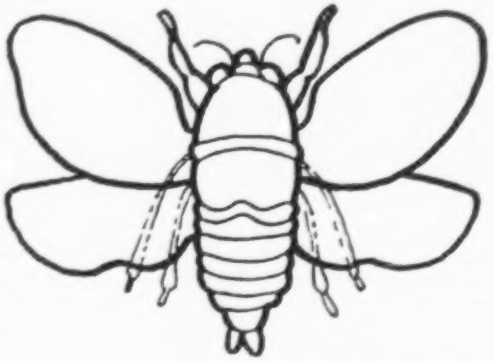

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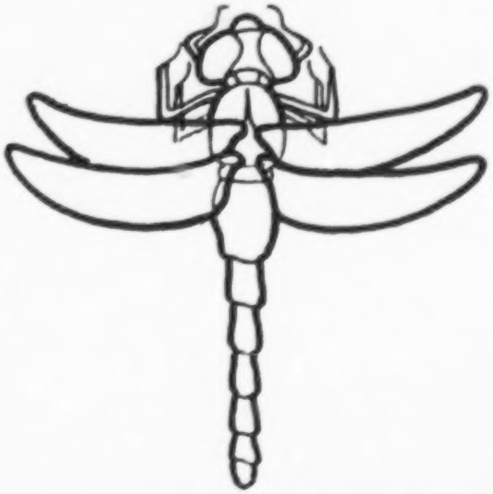

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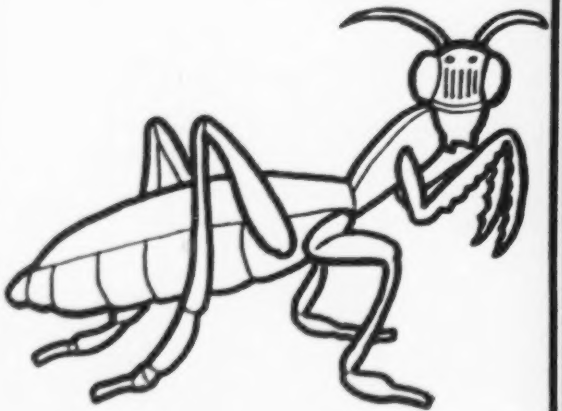
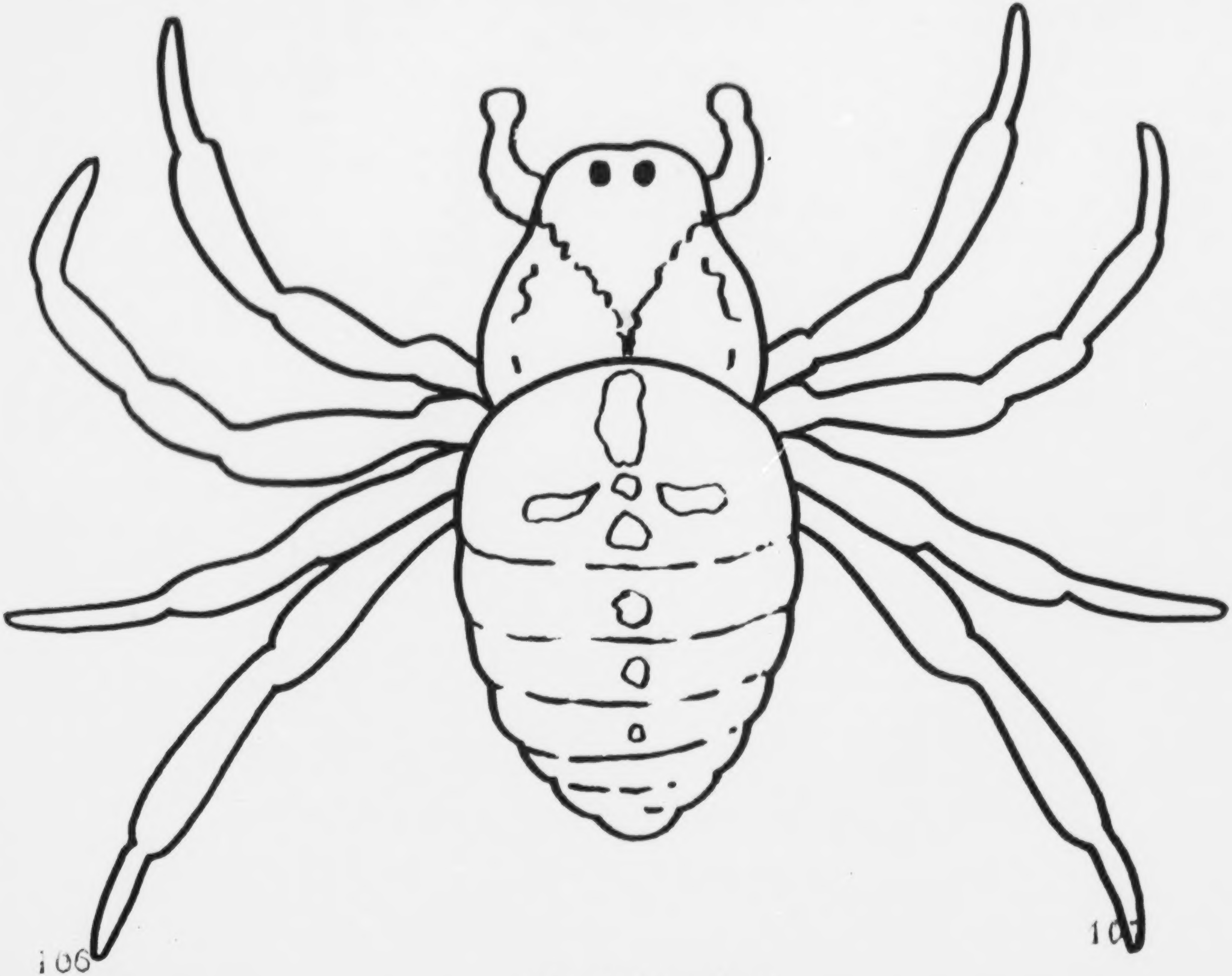
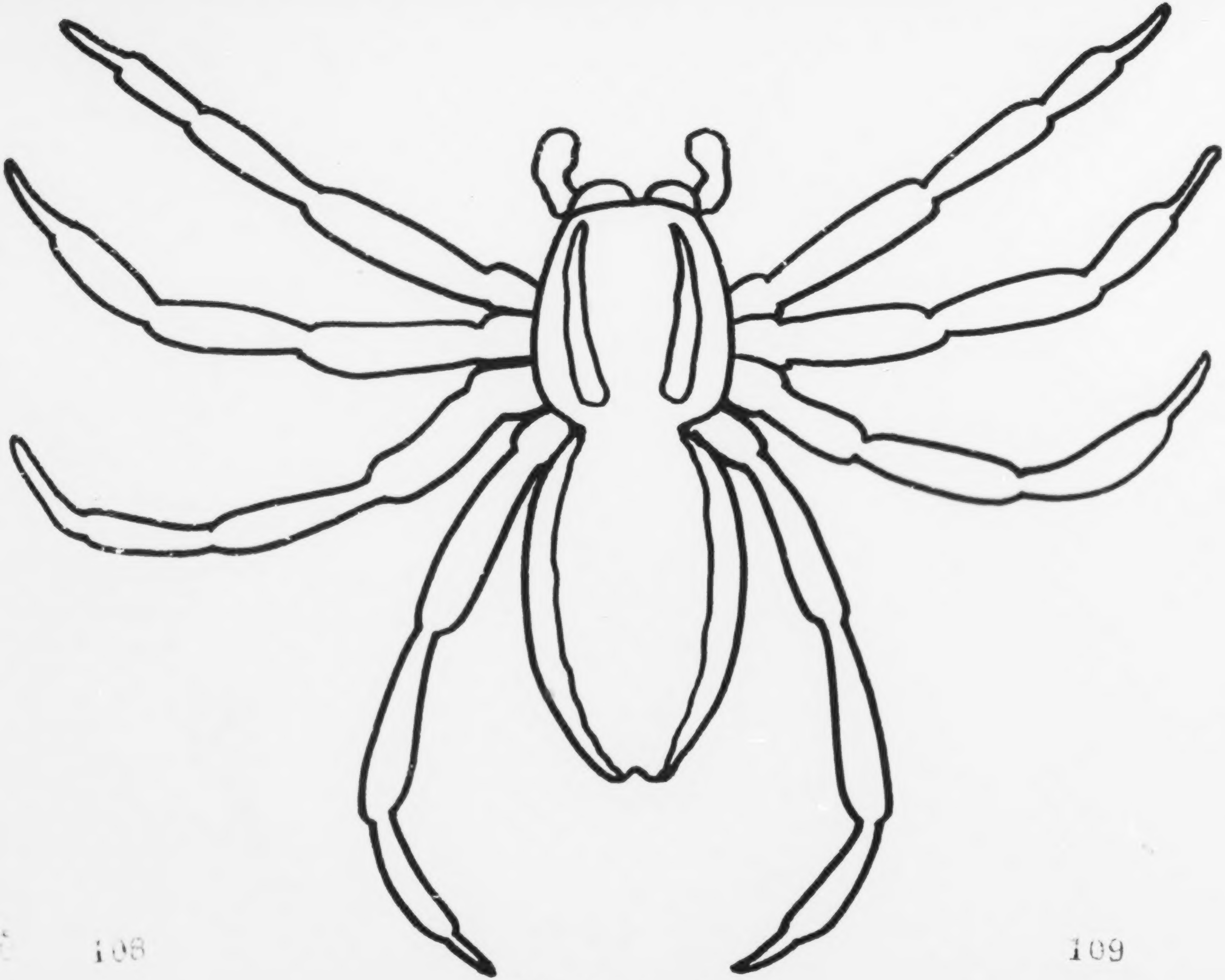
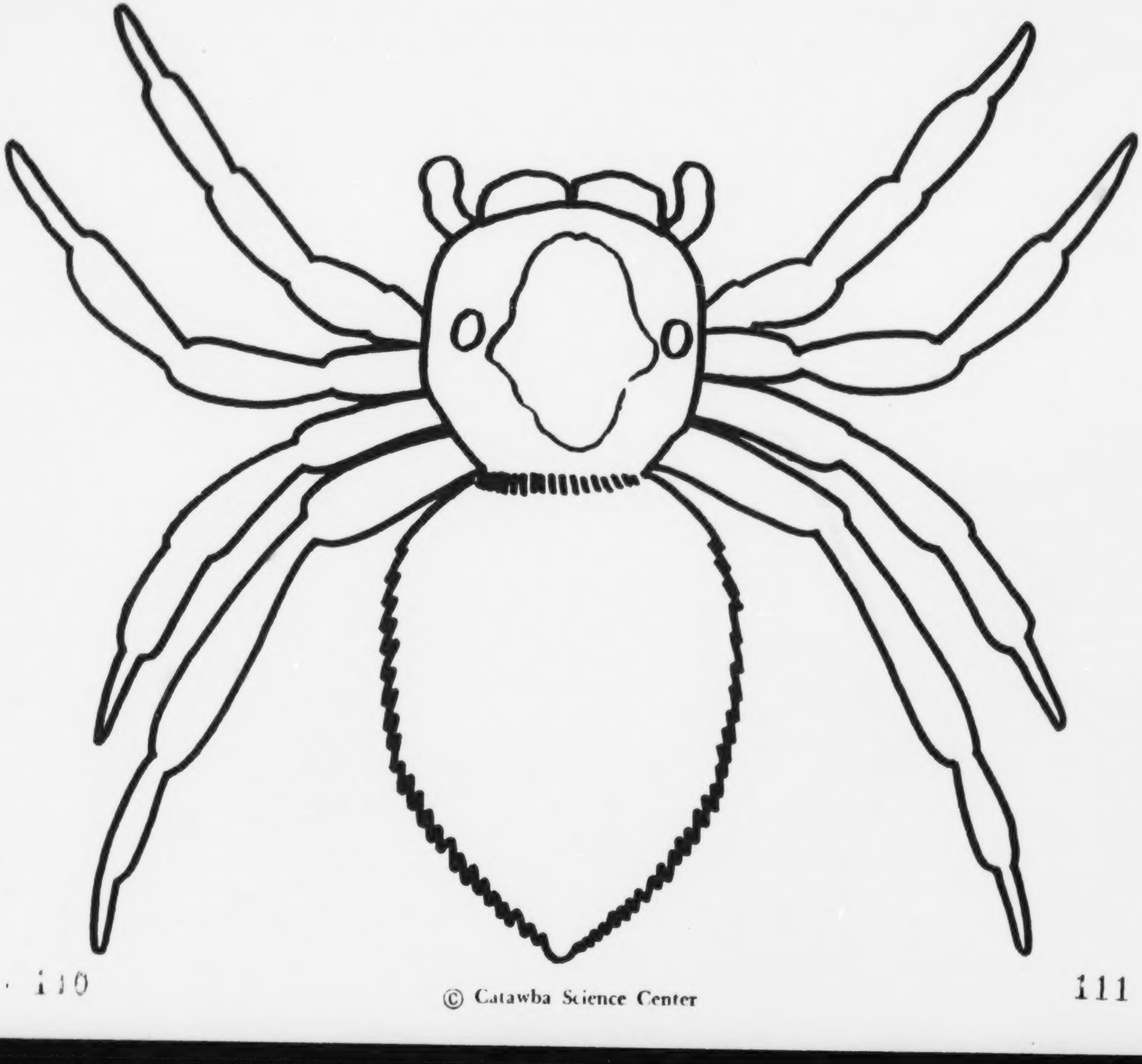
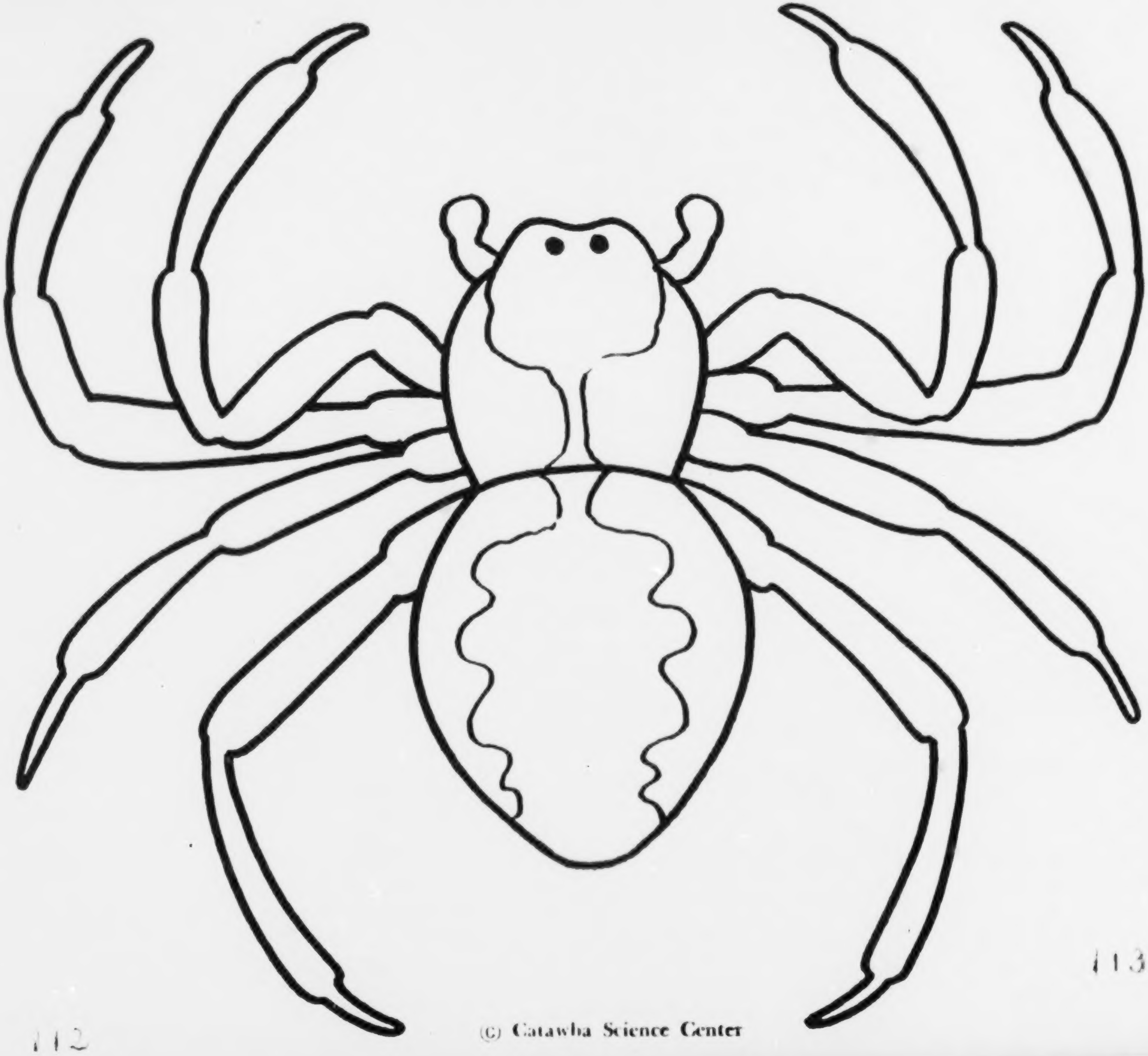


praying mantis



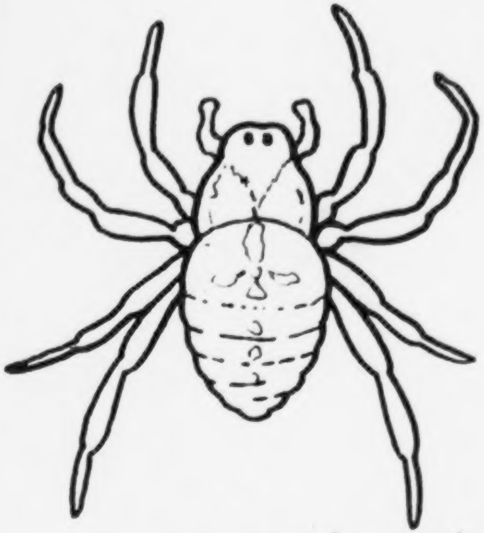




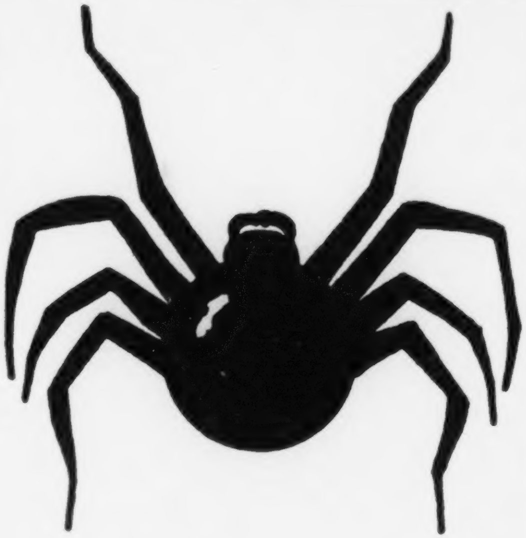


112

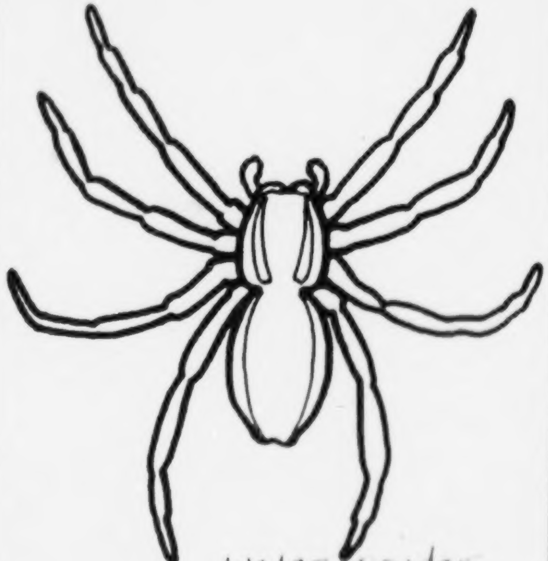
113



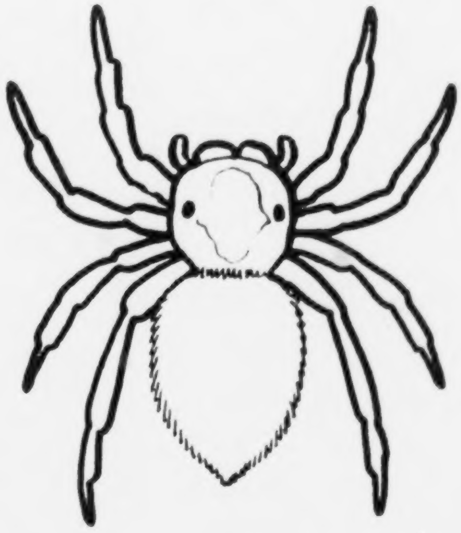
garden spider



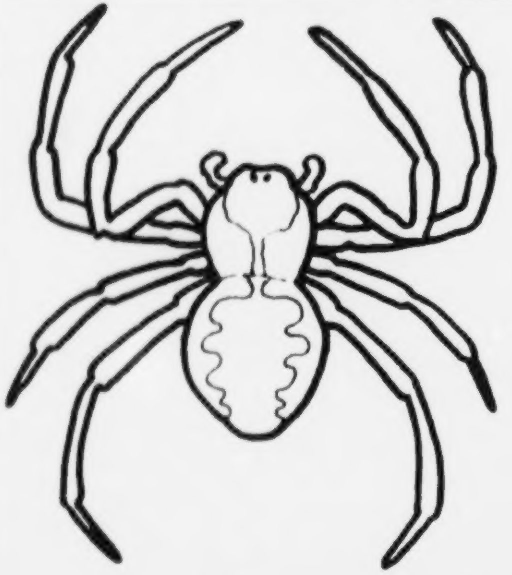
black widow spider



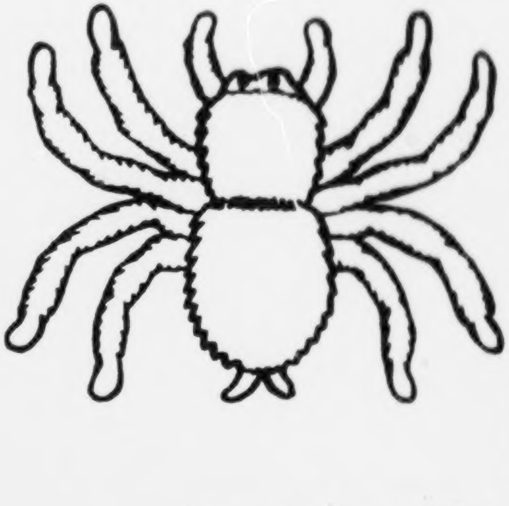
water spider



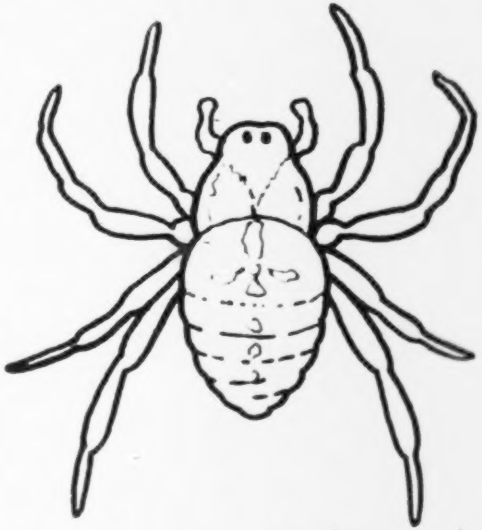
jumping spider



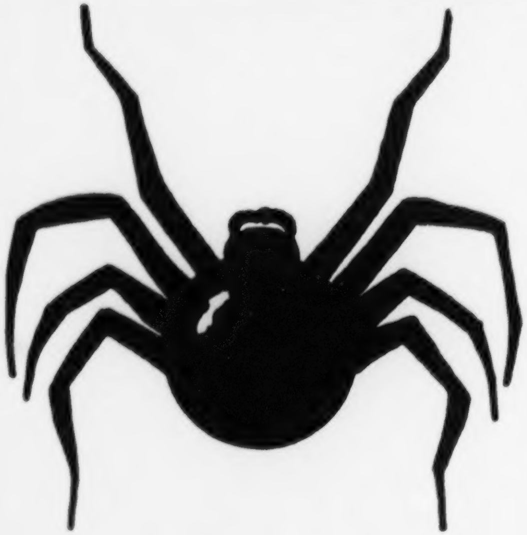
orb weaver spider



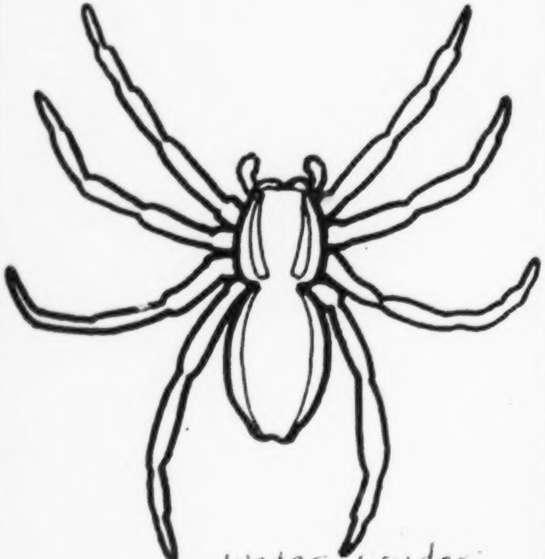
tarantula spider



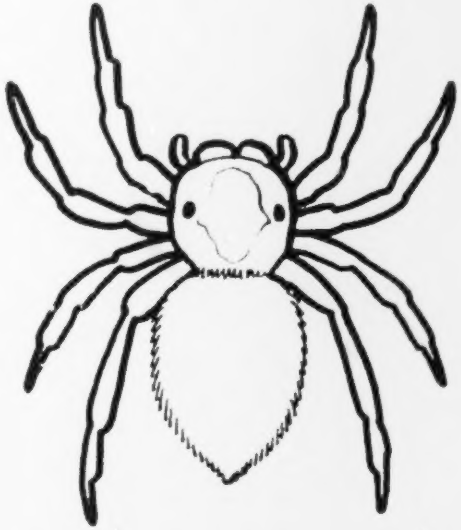
garden spider



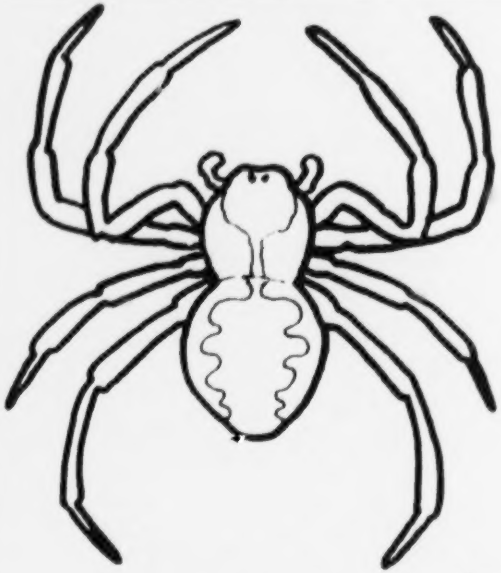
black widow spider



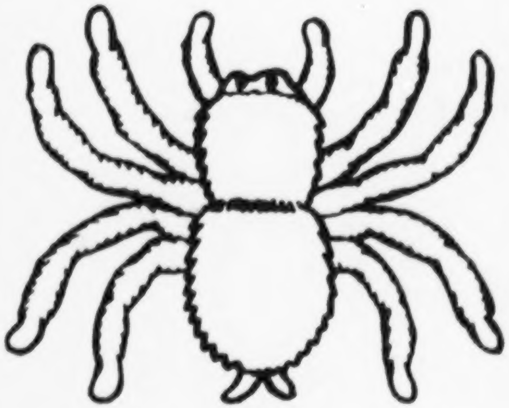
water spider



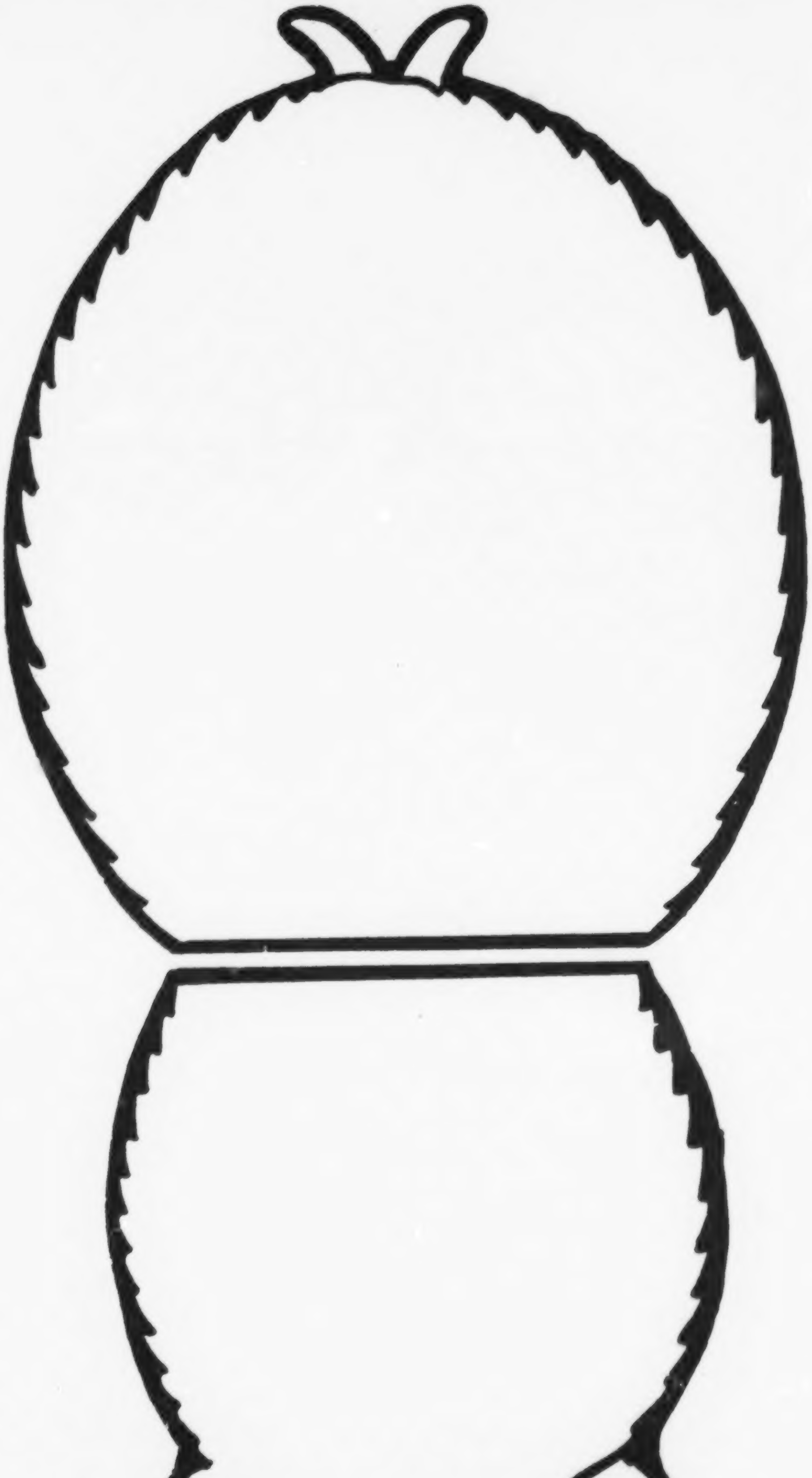
jumping spider

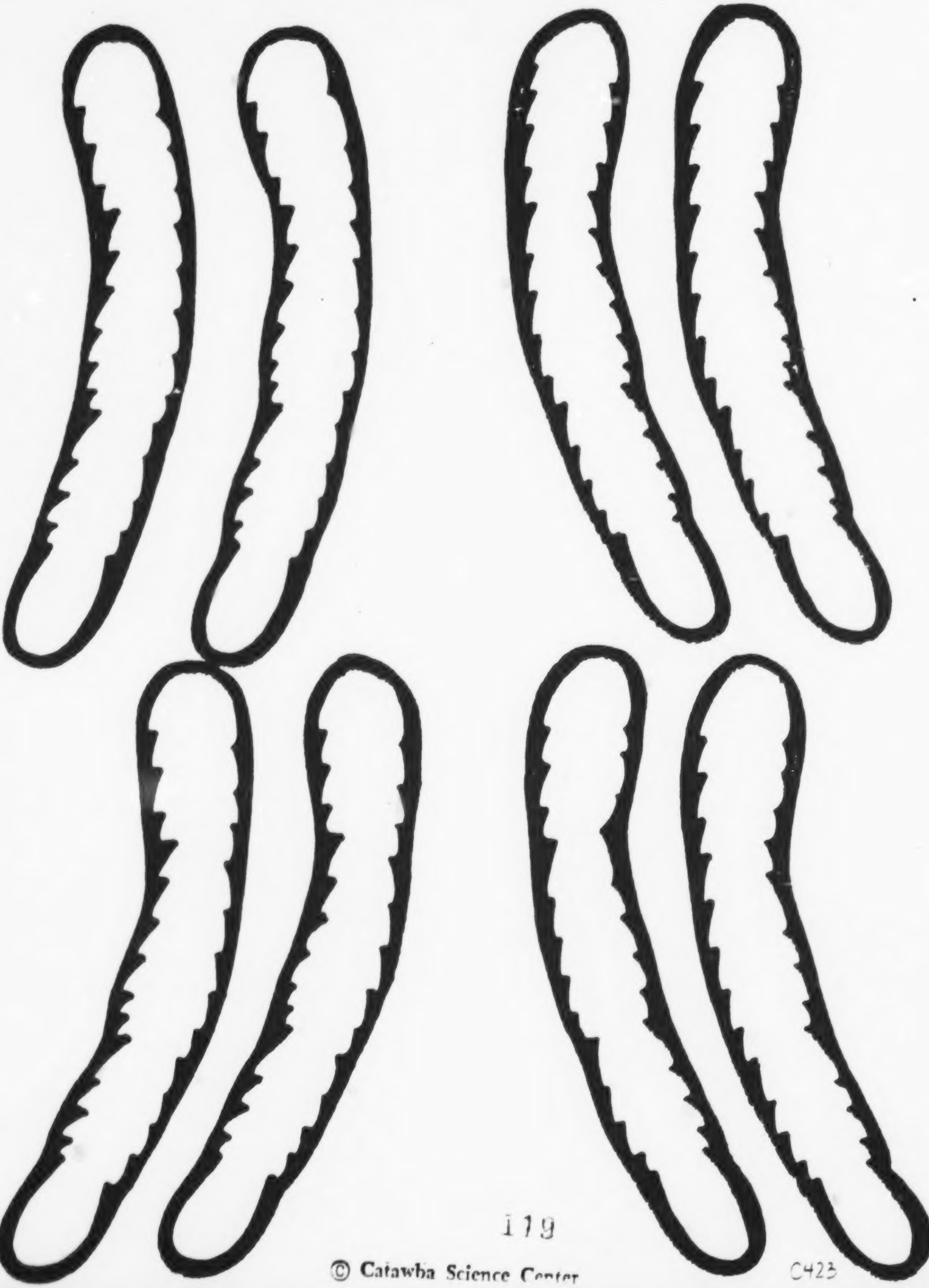


orb weaver spider



tarantula spider





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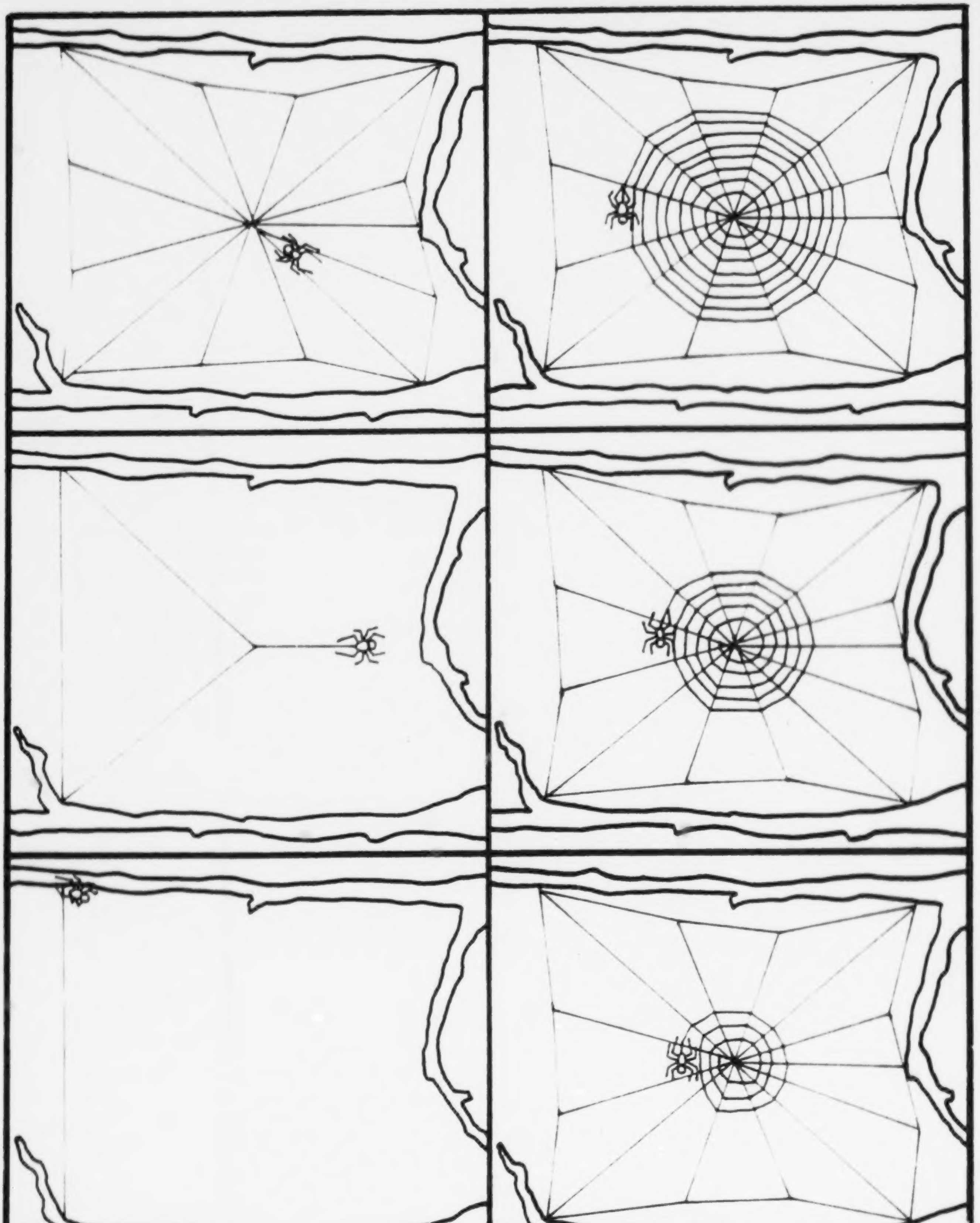

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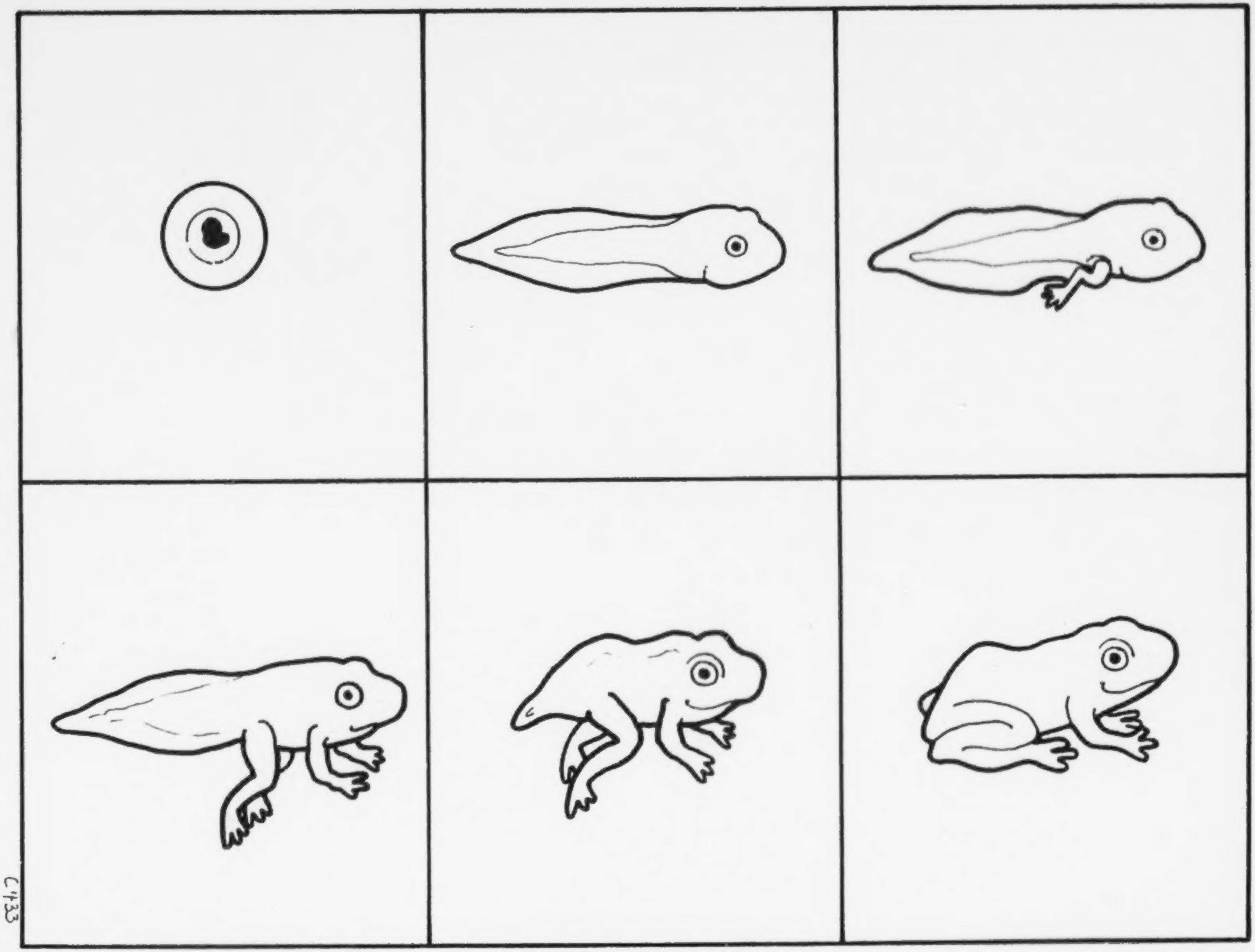

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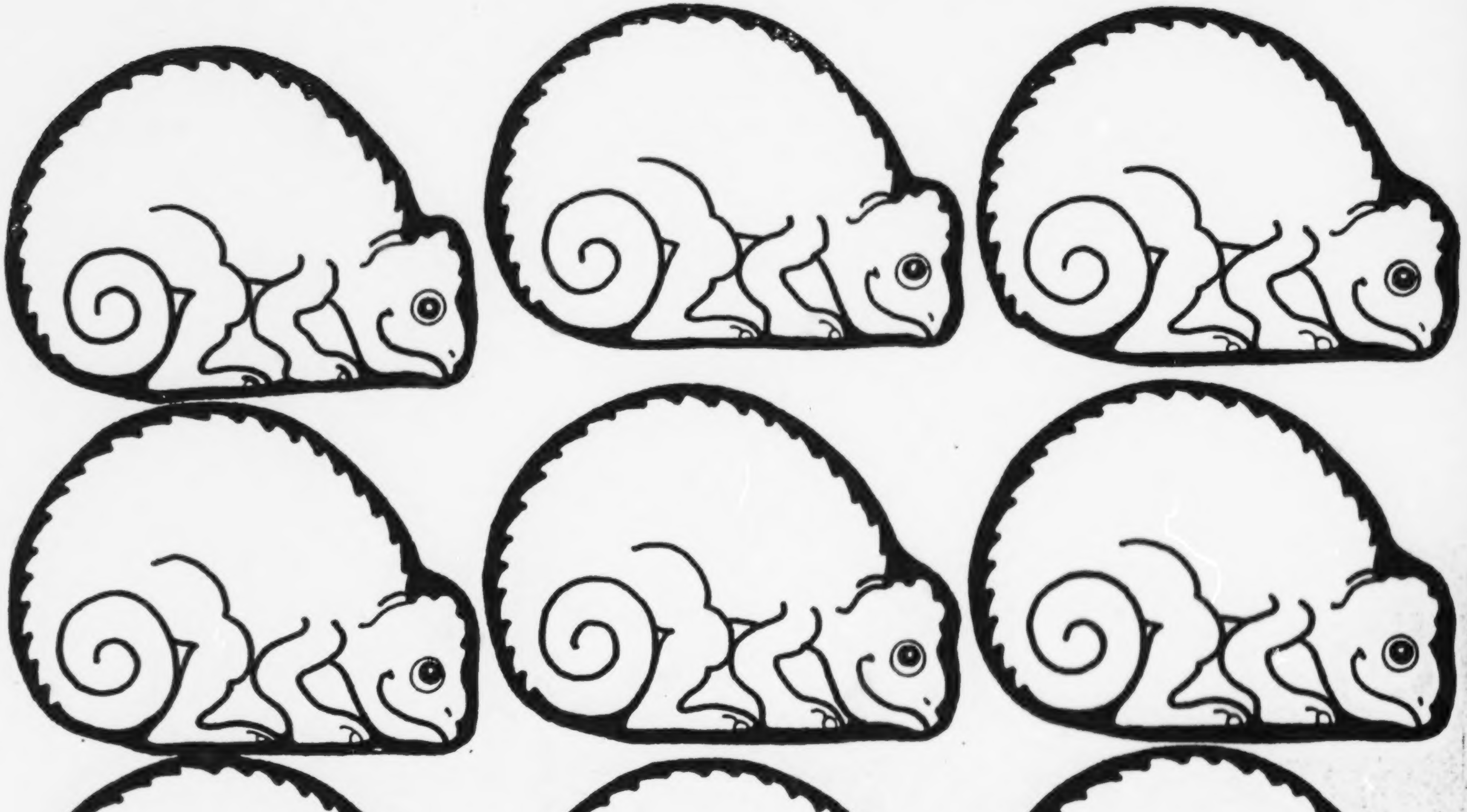

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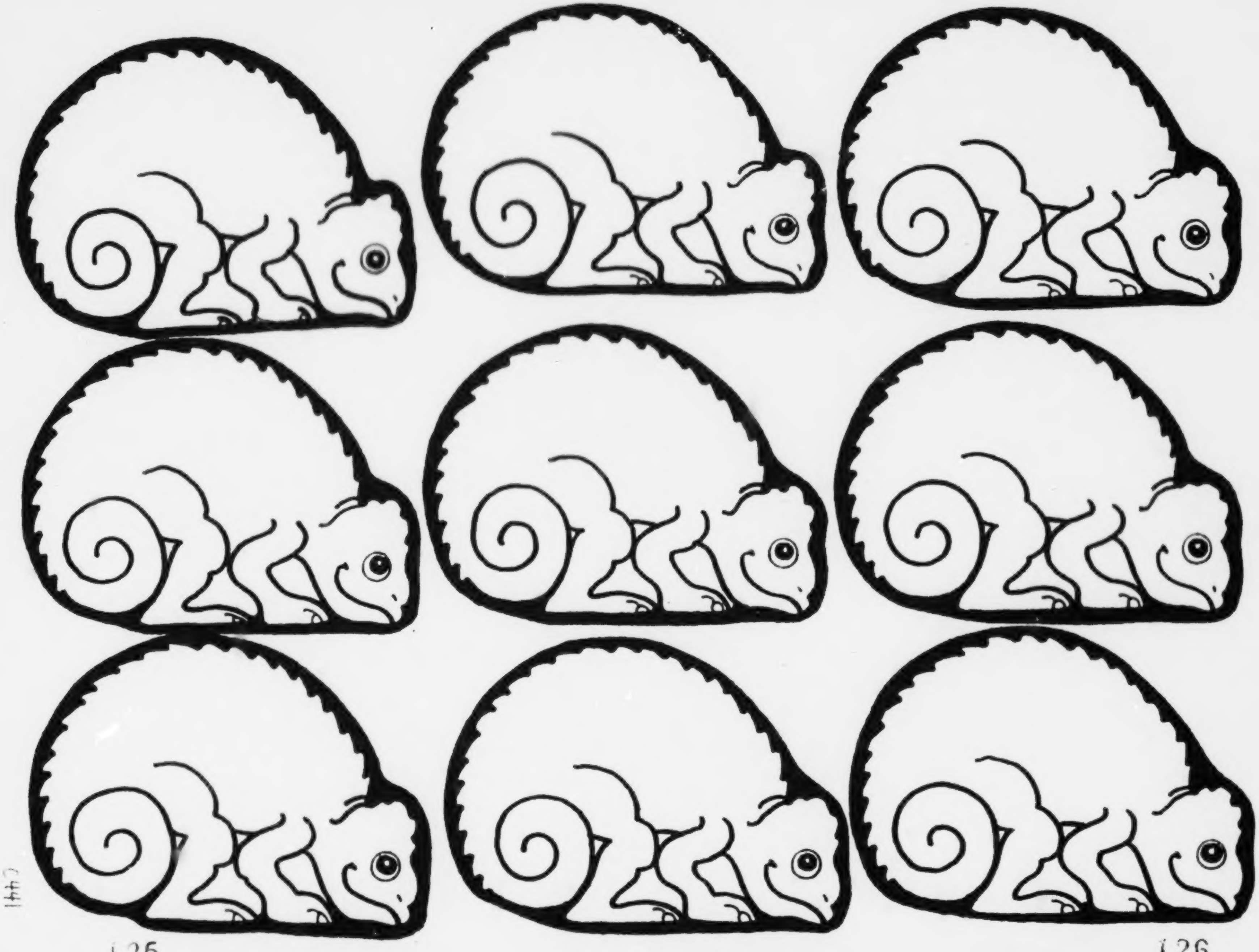

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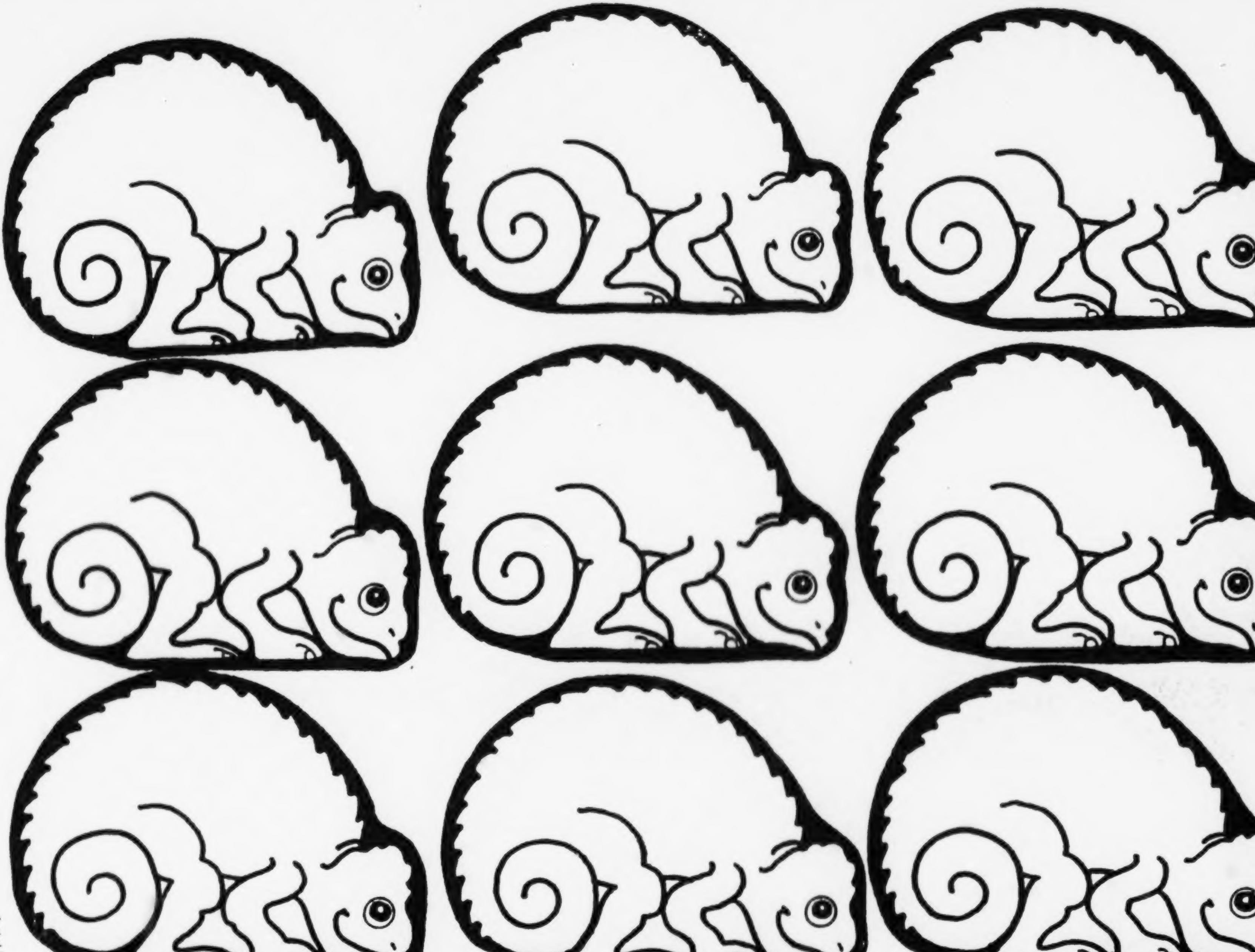

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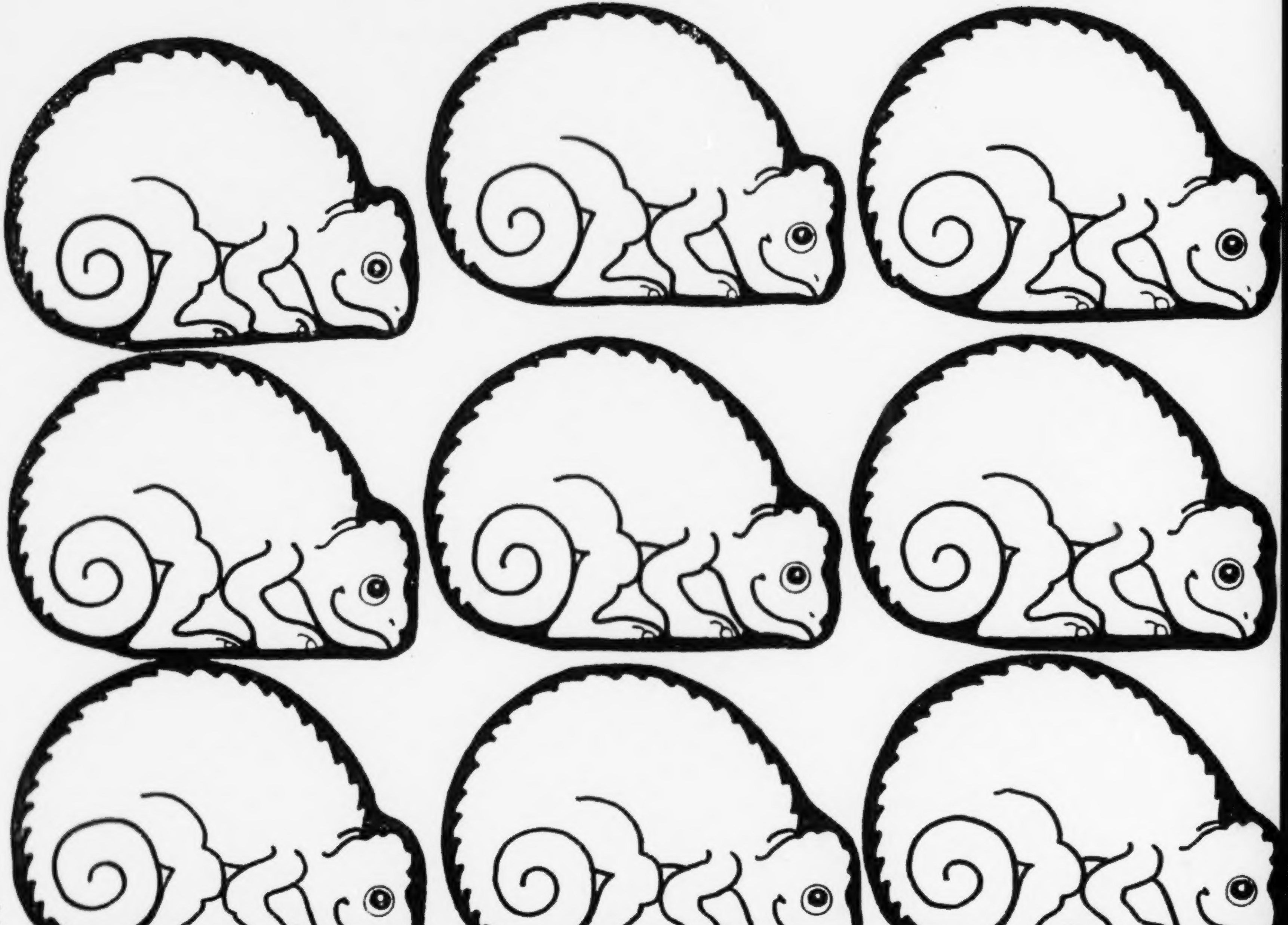

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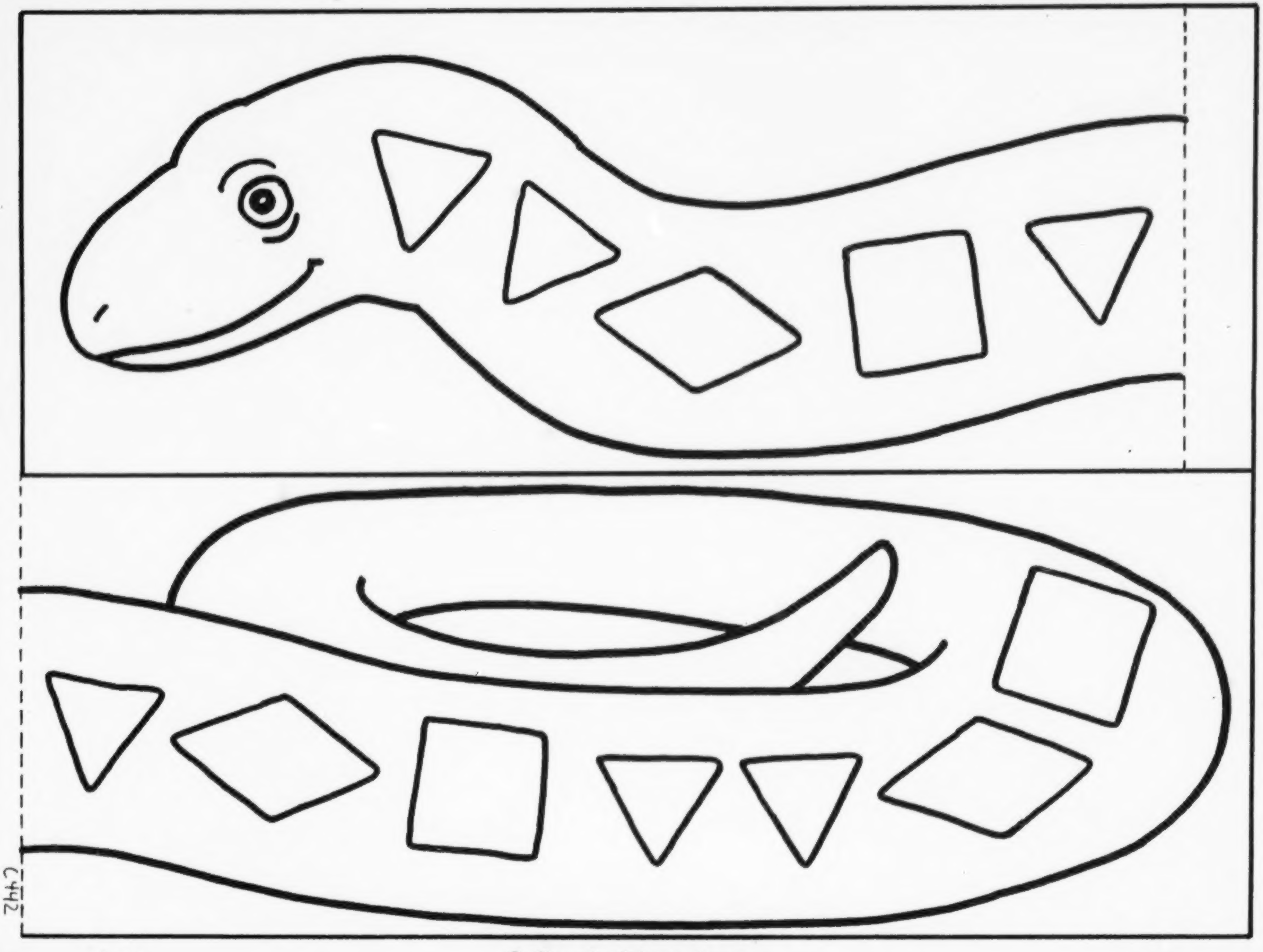

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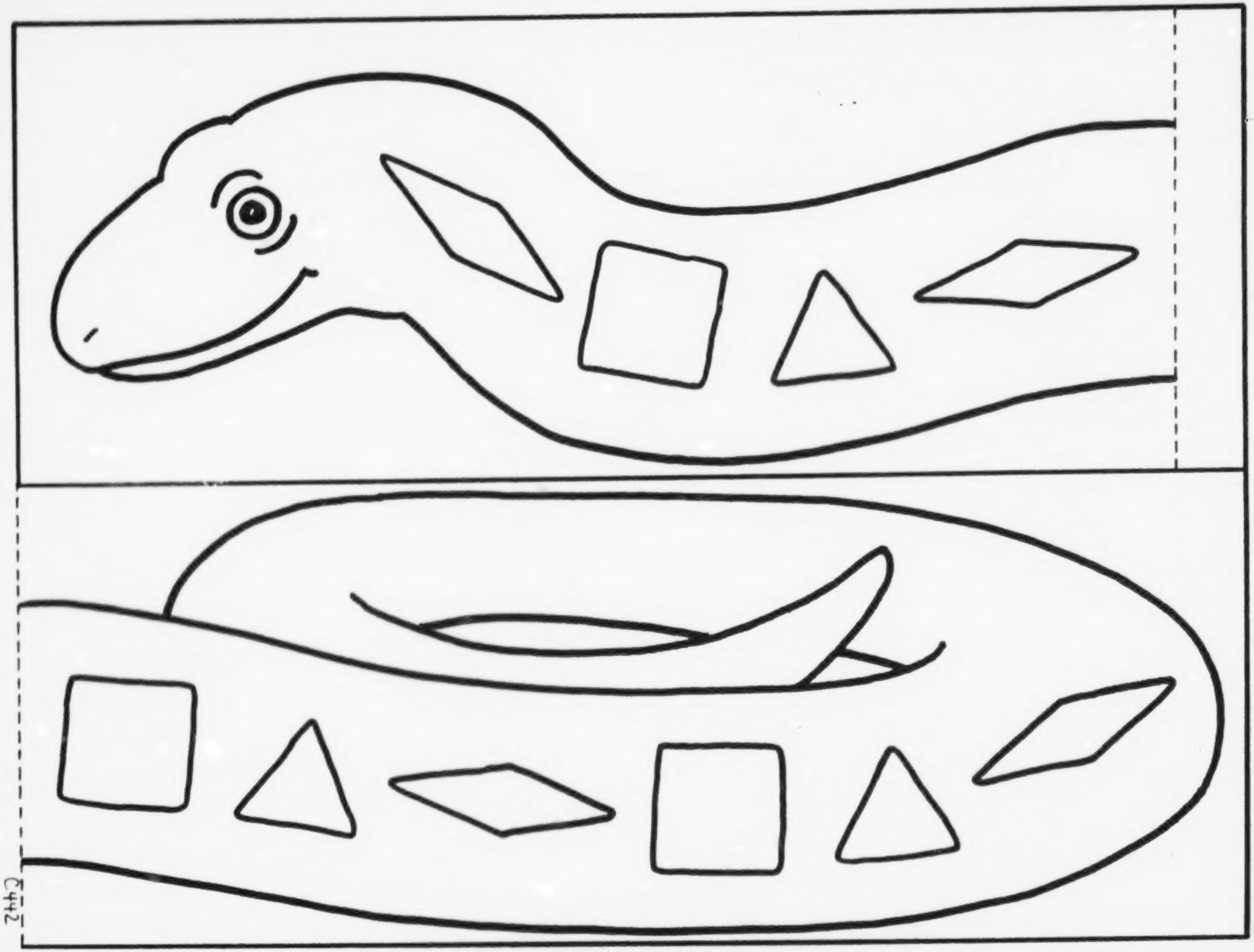
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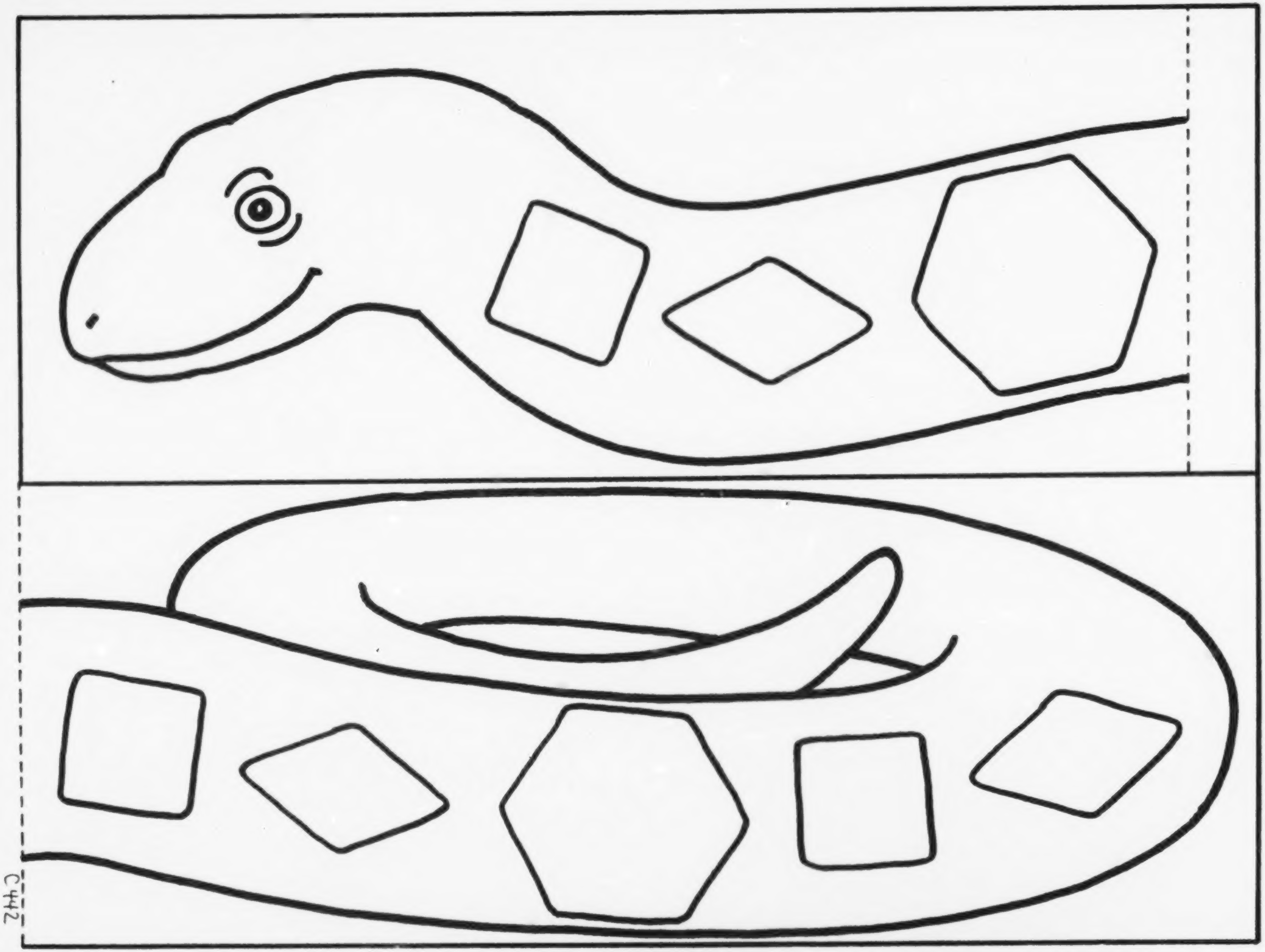
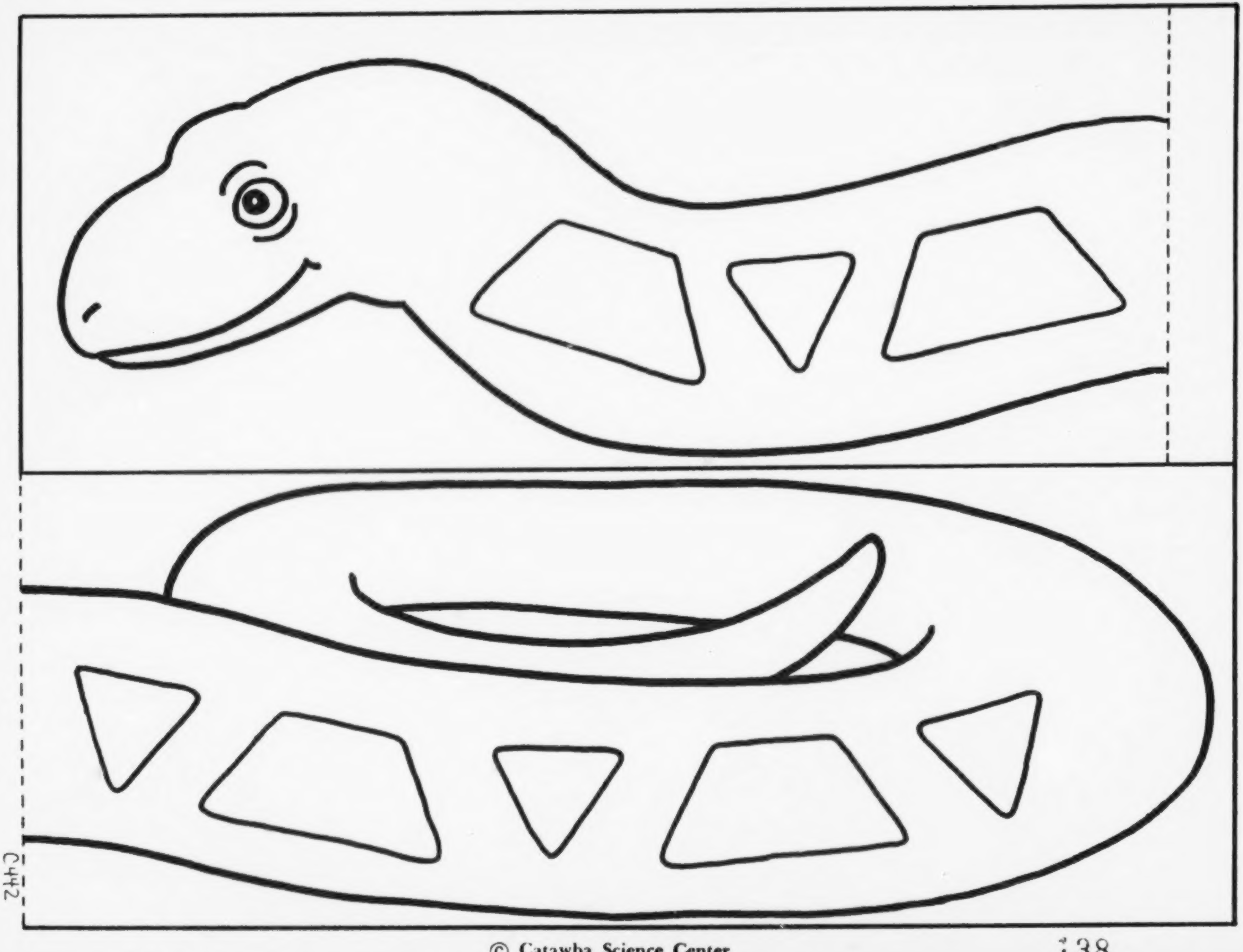


C442

© Catawba Science Center



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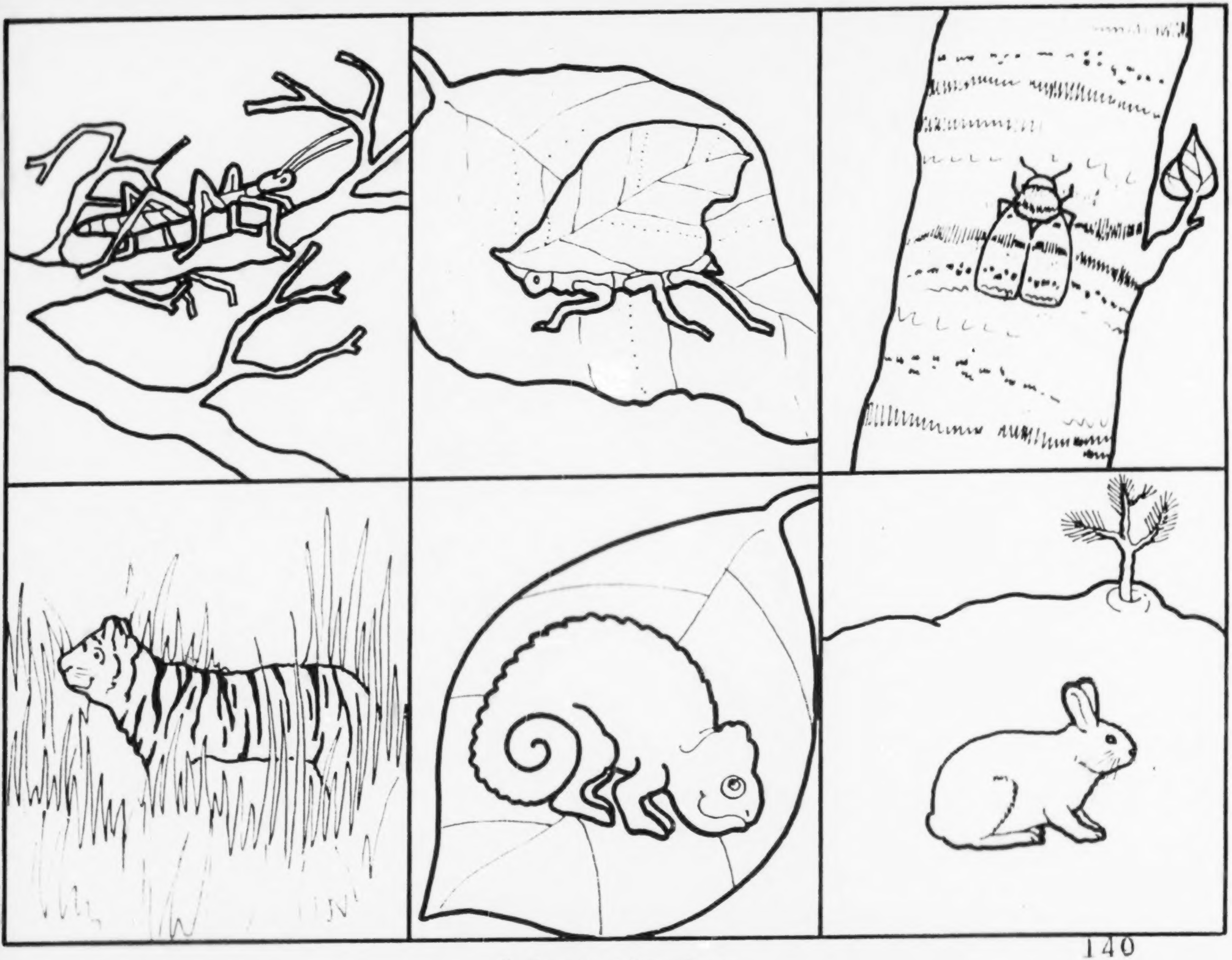

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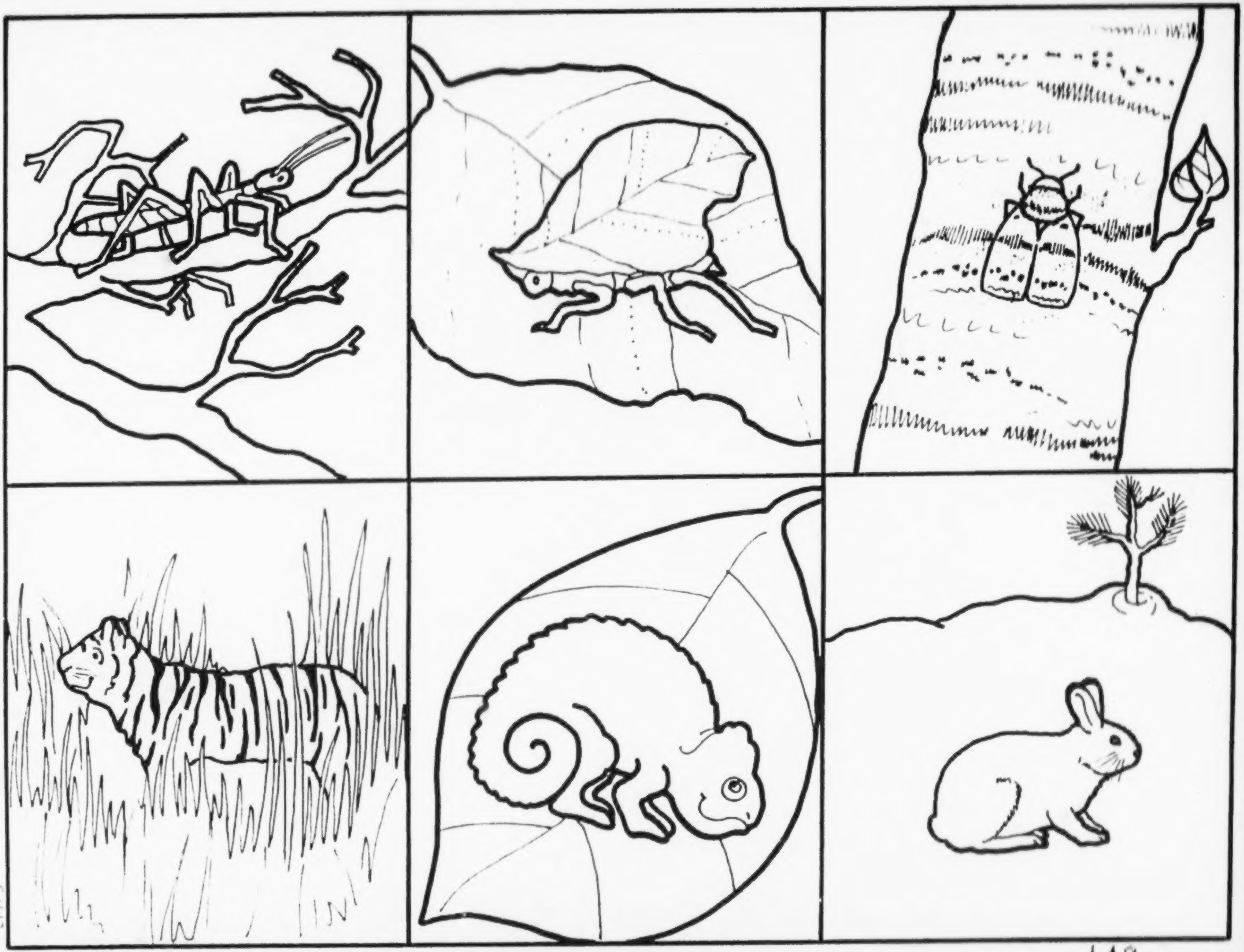

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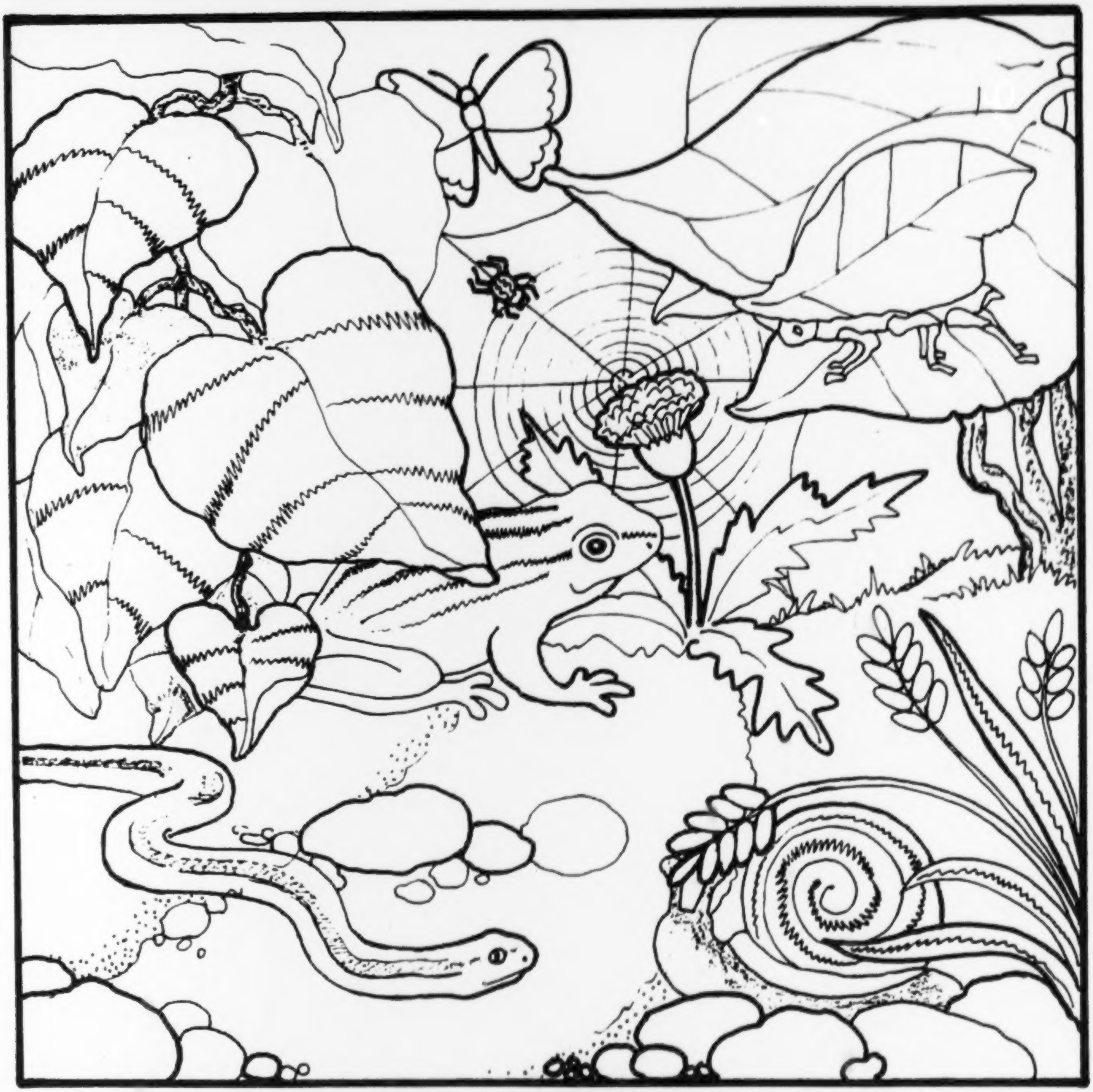
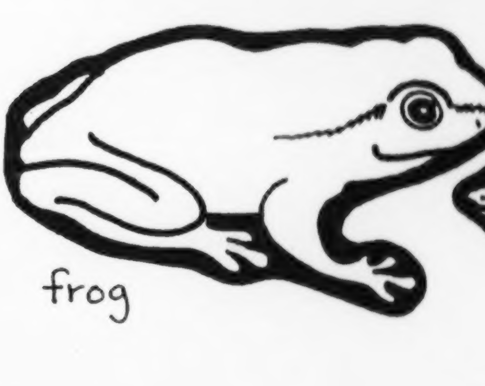
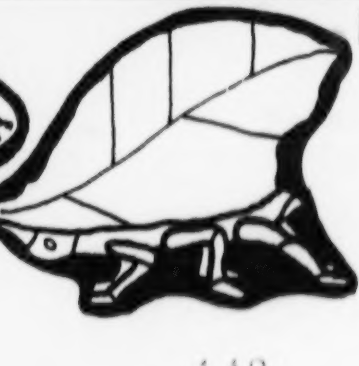
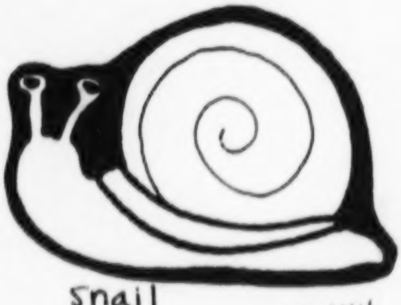




frog



katydid



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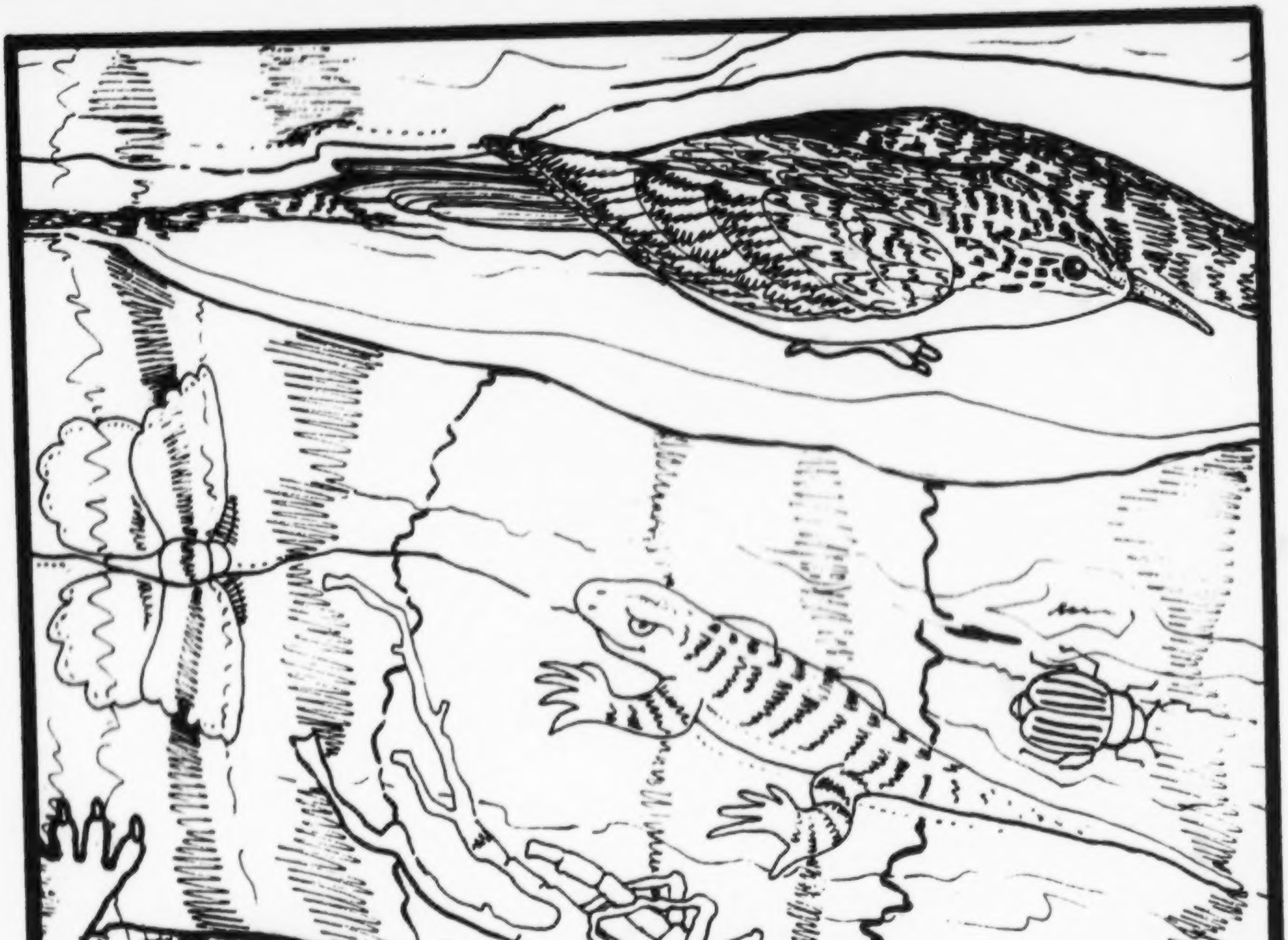

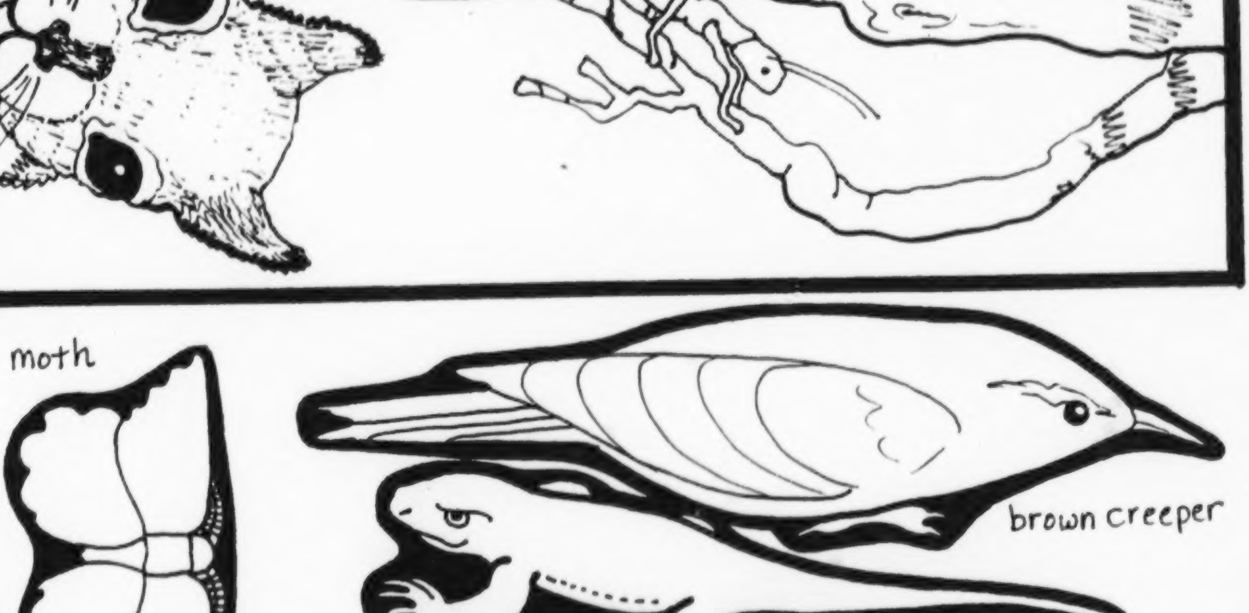
moth
brown creeper
lizard

C444

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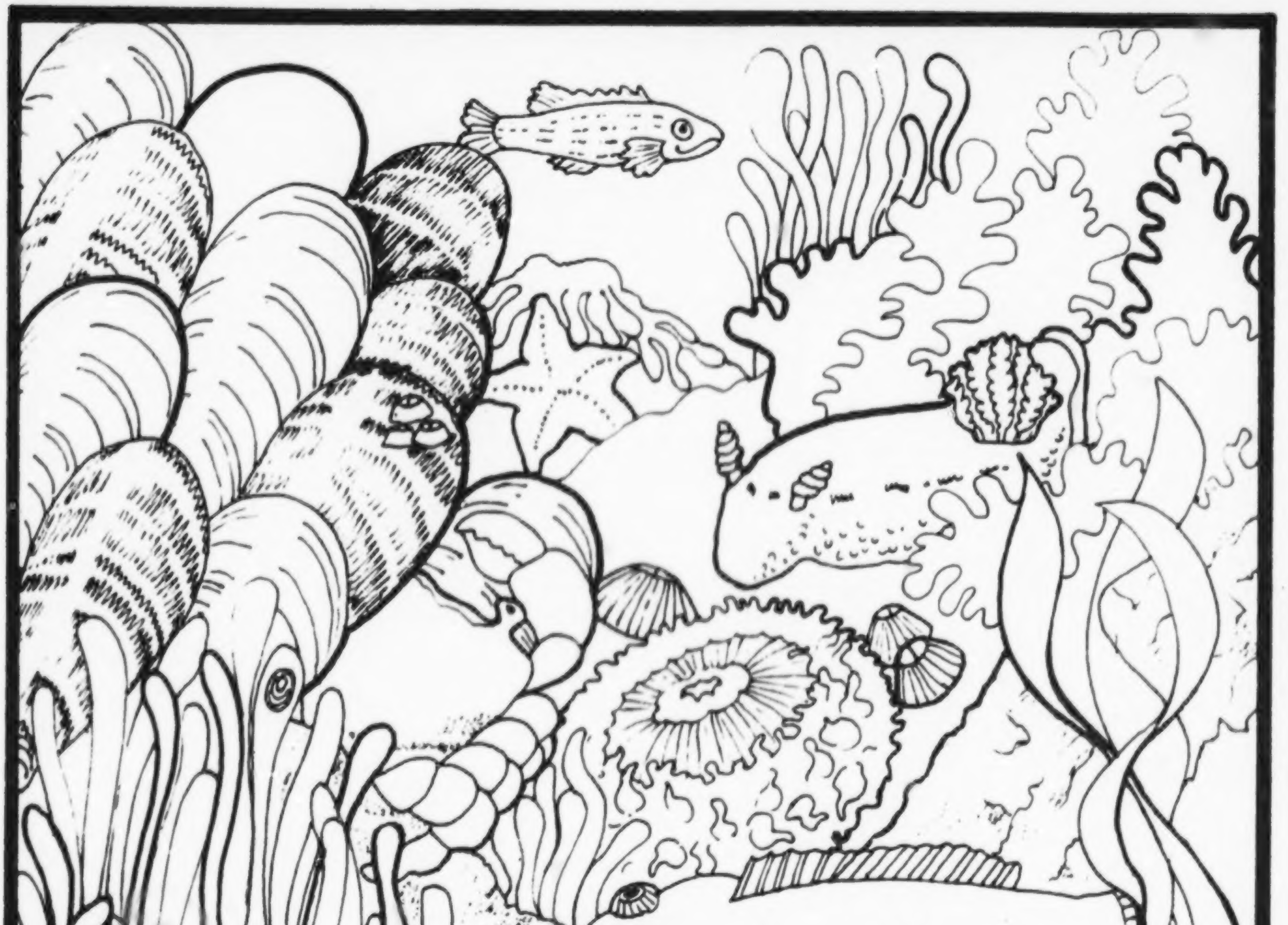
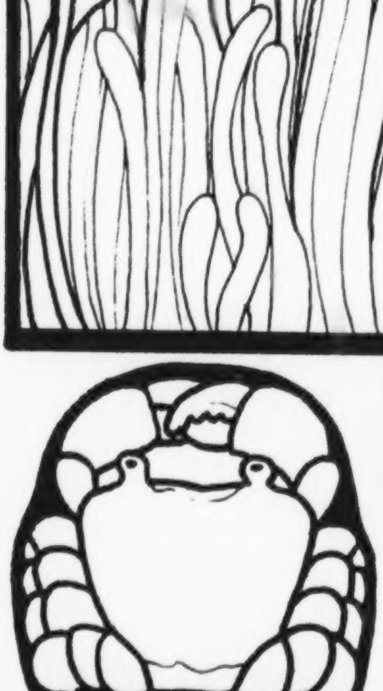
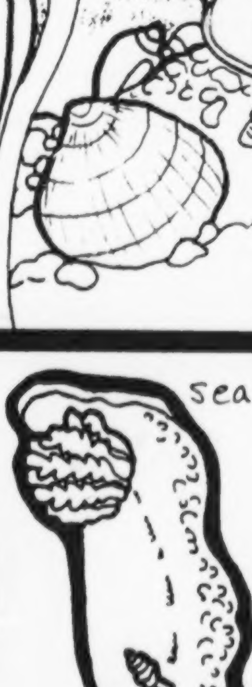
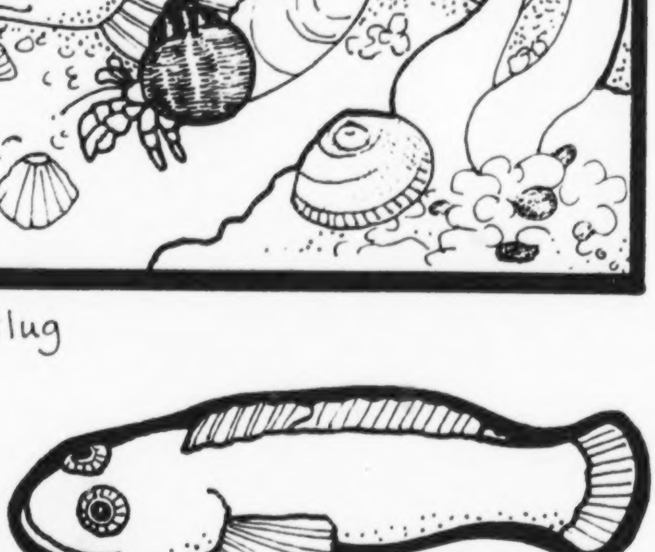




crab



seaslug



sculpin

C444

# Creepy Crawlies

## Books and Fingerplays

Three-Year-Olds
Four-Year-Olds

# CREEPY CRAWLIES
# BOOKS
## Four-Year-Olds

*Icky Bug Alphabet Book* by Jerry Palotta
*Amazing Insects; Eyewitness Junior*
*Insects, Science Safari Series*
*Ladybug, Stopwatch Series*
*The Grouchy Ladybug* by Eric Carle
*Fireflies* by Julie Brinckloe
*Big Book of Insects*

*The Very Busy Spider* by Eric Carle
*A First Look at Spiders* by Millicent Selsam
*The Spider's Web* by Millicent Selsam
*Anansi the Spider* by Gerald McDermott
*Be nice to Spiders* by Margaret B Graham
*The Web in the Grass* by BernieceFreschet
*Spiders, Eyewitness Junior*
*The Spider* by Margaret Lane

*The Caterpillar and the Polliwog* by Jack Kent
*See How They Grow: Frogs*
*Tadpole and Frog;Stopwatch Series*
*Frogs and Toads; Eyewitness Junior*
*Jump Frog Jump* by Robert Kalan
*Fish is Fish* by Leo Lionni

*A Color of His Own* by Leo Lionni
*Who's Hiding Here?* by Yoshi
*The Mixed-Up Chameleon* by Eric Carle
*Reptiles; Science Safari Series*
*Crocodiles and Reptiles; Eyewitness Junior*
*The Salamander Room* by Ann Mazer
*Creepy Crawlies; Do They Scare You? Series*

# Creepy Crawlies
## Songs and Fingerplays
## Resources

*Ring A Ring O' Roses*, Flint Public Library, Flint, MI Revised 1977
- Little Turtle
- My Turtle
- Ant Hill
- Fuzzy Wuzzy Caterpillar
- 1, 2, 3
- The Caterpillar
- Little Frog
- The Frog
- Three Frogs
- Beehive

*Finger Frolics, Revised* by Liz Cromwell, Dixie Hibner, John R. Faltel, 1976
- Caterpillars
- Little Toad

*Finger Frolics*, by Liz Cromwell and Dixie Hibner, 1976
- Reptiles
- Sammy

*Rhymes for Learning Times*, by Louise Binder Scott, 1983
- Little Ants
- Two Little Turtles
- New Butterfly

*Eentsy, Weentsy Spider*, by Joanna Cole and Stephanie Calmerson, 1991
- The Grasshopper

*Piggyback Songs*, by Jean Warren, 1984
- The Little Caterpillar
- Caterpillar

*More Piggyback Songs*, by Jean Warren, 1984
- Pretty Butterfly
- Crawl, Crawl, Little Snake
- Bugs

*Move Over Mother Goose*, by Ruth I. Dowell
- Caleb the Cricket
- Bennie the Beetle

## SUGGESTED VENDORS LIST FOR MATERIALS

CALL THE NUMBER LISTED AND REQUEST A CATALOG

| | |
|---|---|
| ABC SCHOOL SUPPLY | 800-669-4222 |
| ACE HARDWARE | (LOCAL NUMBER) |
| ANATOMICAL CHARTS | 800-621-7500 |
| BACK TO BASICS TOYS | 800-356-5360 |
| BUY THE BOOK | 704-328-2814 |
| CAROLINA BIOLOGICAL SUPPLY | 800-334-5551 |
| CHILDCRAFT | 800-631-5652 |
| CHIME TIME | 800-477-5075 |
| CONSTRUCTIVE PLAYTHINGS | 800-448-4115 |
| CREATIVE LEARNING | 704-324-1498 |
| CRESTWOOD COMPANY | 414-352-5678 |
| DELTA EDUCATIONAL | 800-442-5444 |
| DINO PRODUCTIONS | 303-741-1587 |
| DISCOUNT SCHOOL SUPPLIES | 800-627-2829 |
| EDMUND SCIENTIFIC | 609-573-6250 |
| ENVIRONMENTS | 800-342-4453 |
| FAO SCHWARTZ | 800-426-TOYS |
| FOLKMANIS | 510-658-7677 |
| KAPLAN | 800-334-2014 |
| LAKESHORE | 800-421-5354 |

| | |
|---|---|
| MCMILLAN PUBLISHING | 800-428-5331 |
| MICHAELS ARTS AND CRAFTS | (LOCAL NUMBER) |
| MUSEUM PRODUCTS | 800-395-5400 |
| NATURE COMPANY | 800-227-1114 |
| NEWBRIDGE PUBLISHING | 800-867-0307 |
| RADIO SHACK | (LOCAL NUMBER) |
| SAFARI | 800-554-5414 |
| SAM'S CLUB | (LOCAL NUMBER) |
| SCIENCE AND NATURE | 800-345-3555 |
| TOYS R US | (LOCAL NUMBER) |
| WALMART | (LOCAL NUMBER) |
| WORLD BOOK | 800-659-0165 |
| YOUNG EXPLORERS | 800-239-7577 |

# PRESCHOOL MATERIALS NEEDED

## CREEPY CRAWLIES

### (4-Year-Olds)

**SESSION 4 - 1**

Ant puppet
Firefly puppet
Icky Bug Alphabet Book (book)
Live ladybugs
Preserved insects
Plastic realistic insects
Hula-hoops/heavy yarn circles
"Insects, Bugs, Squiggly Things" (record)
Insect puzzles
Insect Lotto Game
Insect Rummy
Magnifying glasses
Ladybug puppet
Bumblebee puppet
Fireflies (book)
Assorted books

**SESSION 4 - 2**

Very Busy Spider (book)
Tarantula puppet
Praying Mantis puppet
Flannel board insect/spider
Live Tarantula
Spiders and insects (Assorted plastic)
Hula hoops or heavy yarn circles
Preserved poisonous spiders
Preserved spiders
Chinette 8" plates
Yarn
Floor puzzle (spiders & insects)
Sequence cards (Build a web)
Ball of yarn
Assorted books

**SESSION 4 - 3**

Flannel animal life cycles
Caterpillar and the Polliwog (book)
Tadpole/frog puppet
Caterpillar/butterfly puppet
Frog life cycle (preserved Diorama or poster)
Tadpoles
Frog See-Quees
Counting frogs/laminated paper lily pads (1-10)
Frog puzzles
Poison dart frog pictures (cut from laminated posters)
Plastic poison dart frogs
Feely Box - smooth & bumpy things
Fish is Fish (book)
Assorted books

**SESSION 4 - 4**

A Color of His Own (book)
Live Anoles/Chameleons
Who's Hiding Here? (book)
Preserved walking stick, praying mantis
Pattern Blocks
Snake Patterns (from Resource Kit)
Magnifying glasses
6" paper plates (2 per child), tongue depressors (1 per child)
Reptile & amphibian puzzles
Animals In Hiding (Big Book)
Assorted books